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National Veterinary Medical Association of Great Britain and Ireland.

Discussions on Papers Presented to Congress.

No. 2.—Lameness.

By J. J. O'Connor, M.R.C.V.S., Professor of Surgery, Veterinary College of Ireland, Dublin.

The sitting of the Congress on the morning of Tuesday, September 3rd, was devoted to the discussion of Professor J. J. O'Connor's paper on "Lameness," which had been circulated to the members, of whom a large number attended the session.

The discussion was opened by Mr. J. W. McIntosh, M.R.C.V.S., F.R.S.E., of London, who said:—

It is a privilege and an honour to be called upon to initiate a discussion at this important Congress and, while I appreciate the honour very highly, I am afraid, on this occasion, you have entrusted the opening to one who is unable to do it justice. Nevertheless, I have pleasure in making the attempt and, however feeble the effort, I hope it may be sufficient to afford some additional ground for observations and criticisms.

Professor O'Connor, in submitting his very interesting and instructive paper, has outlined in general the fundamental principles to be observed and followed when investigating all cases of lameness, which is very essential and very important, but I regret that he did not concentrate more on some of those special difficulties which so frequently beset the general practitioner in the course of his daily and often isolated rounds. I would like, too, to have had his views on a few of those unsoundnesses and conditions of lameness which are not infrequently the cause of vexatious disputes and anxieties, and upon which there does not appear to be anything like complete unanimity. The elaboration of this side of our work would, I think, have been of wider interest to a body of practical men. I realise, however, that the time factor imposed its limits, and that the vastness of the subject made it difficult for the writer to enlarge in special directions.

He has dealt, in the first place, with certain predisposing factors in the causation of lameness, and upon which I have no criticisms to offer, but I would like to make a few observations on "Soundness of Conformation" as an offset against those defects to which the essayist has referred. As you are all aware, the ability of a horse—no matter of what type—to undergo great and sustained exertion depends on a true balance of muscular control and power—in other words "symmetry."

Symmetry must not, however, be mistaken for a description of "beauty." There are many plain-looking animals that are excellent in every other particular, and when examined with the "eye" of an expert it will be found that there is a harmony of proportion which compensates for their apparent lack of beauty. For instance, an animal may be very pleasing to the eye, because of its condition, rotundity of barrel, and sleekness of coat, etc., but you must remember that "fat" is not power and that many an animal which looks well in the "show ring" may be of little use, if reduced to the ordinary level of a working animal and tested by the physical standard of strength and endurance. The selection, then, of animals for commercial and general utility purposes is what we must strive to procure. If only we could influence the ingenuity of breeders to breed from animals of sound constitution—sound not only in bodily conformation, but sound (and I think this of even greater importance) in "structural conformation," we should be doing a great service to the horse users of this country—and it must be admitted that the best customer of the breeder and trader is the steady and certain employer of horse labour.

May I instance one or two points in conformation which I think worthy of special observation. The form and slope of the shoulder is important, as the "wear" which a horse's forelegs will sustain is greatly influenced by a too-upright angle. His action, too, is materially governed by the same cause, as it means lack of freedom in movement and activity. The knees and bones of the limbs should be well developed and flat—not round. Pasterns should not be too short nor yet too long. The goodness of the hind legs is mainly determined by well proportioned loins, thighs and gaskins, with deep hocks well set under strong and wide, short shanks and cannons and, last but not least, good, solid, deep, open feet, the whole governed by freedom and elasticity of motion, but not extravagant action. Personally, I can forgive certain blemishes provided an animal's conformation and action answer to a pre-determined standard of suitability for the purposes for which it is required.

Having no comments to offer with regard to the other etiological factors enumerated by the essayist, I will pass on to his definition of lameness. I think the term "lameness" ought to be confined to manifestations of pain only, and not applied to a "mechanical halt" which is found associated with weakness, deformity or impediment—conditions which cannot always be regarded as painful.

It is probably true that most cases of apparent lameness are associated with some degree of discomfort, and it is difficult to define where discomfort ends and pain begins, but as the "lay" mind always interprets lameness as the "language of pain," we ought to make some distinction either by qualifying the term or by confining it entirely to those conditions which *are* associated with pain.

No doubt all of you will have experienced the injustice which is sometimes done to horse-owners in our police courts, by regarding all cases of lameness as conditions of pain. I can recall, in my own experience, more than one of such instances where the veterinary evidence on both sides agreed that there was no pain, but admitted lameness of a mechanical nature. In one case to which I will refer,

the mechanical halt was due to a weakening of the extensor tendon on one leg, with the result that there was a perceptible drop of the head, as the knee jerked forward when the weight of the body came on that particular limb.

The magistrate said that he felt bound to accept the evidence that there was no pain, although he had great difficulty in dissociating himself from the standard definition—"lameness means pain." If a mechanical action of this kind must be included in lameness, and lameness is to be interpreted as always painful, then injustices will result, and owners will be compelled to withdraw from the streets and highways many useful and serviceable animals.

Diagnosis.

Professor O'Connor has given us a very full and complete description of the methods of diagnosis, and as I substantially agree with the principles he advocates, I will content myself by supplementing these in a more or less general way. You are called upon to make a diagnosis and to forewarn the owner of the consequences which may result; not infrequently, too, you have to decide from the strictly commercial or economic aspect. Is the animal worth treatment? Is it likely to recover sufficiently, in a reasonable time, to be able to do the owner's work? Is the lameness chronic?—and so on. In the majority of cases the experienced man will be able to give a definite prognosis; in others, it is very difficult to foretell possibilities; while in still a few it is impossible to make a positive diagnosis or prognosis. You may guess correctly, but that is not accuracy. We sometimes treat animals and give opinions without being sure, because we think that postponement of a decision might be regarded as evidence of want of skill and that so long as the animal gets better, it does not matter very much.

I am well aware that many people think that skill in diagnosis is in proportion to the rapidity with which it is framed, and that knowledge of disease is evidenced by positive and offhand assertions, but to this class of people it is much easier to disguise your ignorance than it is to display your intelligence. It was a wise man who wrote, with regard to reputation, "It is often won without merit, and lost without deserving." I am quite ready to admit that there are men who possess wonderful powers of diagnosis, but I am no believer in those paragons of perfection who never own to mistakes and who are prepared to decide on the seat and the nature of the lameness by hearing the animal "trot" on the street. We must all admit—if we are honest—to mistakes, and I would never be influenced by the rapidity with which an opinion is formed, but by the sincerity and soundness of a fully and carefully considered judgment. This is the opinion upon which you will build a reputation, and the one which is lasting and generally acceptable. If you are not sure, it is your duty to tell your client so, and if you have his confidence (and without that he is not worth having) he will accept that opinion loyally. A hurried diagnosis should always be avoided.

Nothing is so mortifying to one's pride and reputation as to be told by a client that the lameness which you diagnosed in the shoulder is due to a nail in the foot or to a corn—now suppurating at the hoof head. Again, you may have experienced the trouble and anxiety caused, if you treat a case for a long time without success, or, on the other hand, decide that an animal is useless, when in other hands it may happen to yield to treatment and turn out a useful and profitable animal. These, gentlemen, are only a few of the things which may and do follow "hasty conclusions." They could easily be multiplied, but I think they are sufficient to warn young practitioners and perhaps old too (who sometimes think they are infallible) of the dangers they incur and the risks they take.

In seeking for the cause of lameness there is no little detail which should be overlooked, as a correct diagnosis is almost essential to correct treatment. It is unwise to rely on hard and fast rules entirely, and the more experience one gets, the more will he depend upon his own observations—there is no surer foundation than knowledge gained in the sometimes hard and rude school of experience.

See the animal at rest if possible. I do not agree with the essayist when he says that it is only when lameness is well marked that the affected limb is held in an abnormal position. I am of opinion that frequently the first sign or symptom of impending trouble is to be found in the stable under conditions of repose, and that immediately you move the animal it will find other objects to attract its attention and useful indications may disappear and be lost. For example, a horse may point, rest the heel of the one foot on the front of the other; he may rest the toe on the ground, with the knee slightly flexed; he may elevate the foot. Indications of this kind are valuable and almost diagnostic. If both fore feet are affected, each foot may be pointed or elevated alternately. Some animals similarly affected may evince little alteration, if any, so it is wise not to come to any conclusion until you have exhausted all recognised methods of inquiry. If a horse is suffering in the feet or tendons, it will probably lie a great deal, and when it rises, it will do so with care, and stand more or less in a heap, according to the severity and extent of the lesions. A very good example of this method of standing is to be found in "laminitis." It is to be observed, too—although to a lesser degree—in sore shins and tendons, navicular disease, etc. Mere stiffness, however, must not be mistaken for lameness. Many young horses when in training will show indications of "joint fatigue" by pointing and changing from one foot to the other. Old horses, too, are frequently stiff on rising, from the usual associates of advancing years and honest toil, so that allowances must be made for probabilities of this kind.

Having observed all there is to observe under repose, watch the animal move in the stall or box from one side to the other and as it is backed and turned round. Here again, valuable notes may be made. Before proceeding further ascertain the full history of the case. When did it go lame? Was it working at the time? And, if so, what was the nature of the work? When was it shod? Enquire as to any previous lameness—in fact, no useful detail should be omitted.

The history of a case should not be implicitly relied upon, as an attendant may economise the truth purposely, or without being aware of it. You have now come to the open, when the usual methods of examination will be continued. Walking too and from, turning, backing, trotting on hard or soft ground according to opportunity and fancy, palpation, manipulation, etc.

These various methods have been so well and fully described by Professor O'Connor that it would be superfluous for one to proceed further in general terms, but, before concluding, I would like to make a few observations on certain "specific conditions" which are of more than ordinary importance.

Injuries to the foot and its immediate head are extremely common in town practice, and while many of these are easy to diagnose, others are much more obscure. In the foot you have a collection of tissues, such as bone, tendons, horn outside, and a vascular secreting layer between the two, and when we consider that all efforts created elsewhere are concentrated within these four horny boxes, it is surprising how much they can resist. The horny structure of the foot is, of course, a great protection, but when injury is sufficiently severe to damage the tissues underneath, the results must always be regarded with concern. Swelling is prevented by the unyielding character of the horn, and pain is much greater on that account. Effusion cannot escape, and suppuration runs a more than usually destructive course, necrosis being often rapid and extensive.

One could usefully devote a paper to this region alone, but as time is pressing I will only refer to one or two of these, and I have selected "ringbone" as of primary importance, and one which is likely to afford considerable room for discussion.

Percival, in the year 1849, said, "The ordinary site of ringbone is the pastern bone. It is possible, however, but a rare occurrence for it to be confined to the coronet bones. It occurs more frequently upon the hind than upon the fore leg, and mostly we find the tumour approximating the pastern joint—the tumefaction gradually creeping over the joint, involving as well the bones above and below more or less in disease. Sometimes the tumour occupies the middle of the pastern bone, having no immediate connection with any joint, rarely is it seen sufficiently high upon the pastern to disturb the fetlock joint." These views, in the light of modern teachings and knowledge, would have to be considerably modified. Hunting, in 1912, preferred the term "phalangeal ostitis," and in effect said: If the word "ringbone" is to be retained it should be defined as a bony enlargement accompanied by arthritis. The use of the term "false ringbone" is inexact and misleading, as also is the more scientific-sounding term "periarticular ringbone." There should be no such thing as false or periarticular ringbone. The sole qualification of the word ringbone which we should tolerate is that indicating its position. When the pedal joint is affected we may speak of low ringbone; when the coronary joint is the site we describe it as high ringbone.

Now, a well-formed ringbone is not difficult to diagnose, but as lameness always precedes the formation of an exostosis, there is a time in its formation when nothing can be seen beyond the lameness and less can be felt. Is it possible at this stage to make a reasonably safe diagnosis? I think it is. By taking into account the animal's age, and its conditions of work, and noting any predispositions which may exist, you will then, by a process of exclusion, confine the trouble to the region of the foot or hoof head, and by eliminating such possibilities as pricks, gathered nails, corns, keratoma, etc., it would be fair to assume that you had a phalangeal ostitis to contend with. If there is a history of direct violence attached to the case you are on safer grounds. The character of the lameness may not, at the outset, assist you very much, beyond pointing to the foot; it may be slight and even intermittent; action and position of the limb may afford you little help, but lameness which ceases or becomes less with exercise is always suspicious of articular mischief. If your diagnosis be correct you will soon find the characteristic indications which are so familiar to all of you, when the exostosis becomes well marked and the gait altered—the animal going on its heel. At a meeting of this Association held in Manchester in 1912, Hunting said, with regard to this disease, "Mere proximity to a joint does not of itself increase the importance of a phalangeal ostitis any more than contiguity to a tendon or ligament. An exostosis on any part of a bone may cause lameness, because of the ostitis accompanying its formation, but, as a rule, pain departs when the ostitis ceases and permanent soundness of action is quite compatible with a large bony growth. It is when arthritis accompanies exostosis round the joint that we have an absolutely incurable condition with permanent lameness." Exception may be taken to Hunting's reference to the small importance of the exostosis being near a joint. I am of opinion that the nearer a joint or tendon the greater its importance and danger, and I am not at all sure that a large bony growth on any part of the phalanges is compatible with soundness of action. I think it may be possible to have freedom from pain when productive ostitis has ceased and the exostosis does not involve a joint—although this, even, is open to doubt.

Ankle bones must, however, be excluded from this definition. It is quite common to find, on examining horses, the prominences of the ends of the os suffraginis and os coronæ frequently asymmetrical, and it is puzzling to distinguish between conformation of this kind, and a commencing exostosis. It is here that we find much confusion of thought amongst professional men, and I think a useful purpose would be served if this meeting to-day could agree on some working definition, and I would like to suggest for your consideration the following resolution:—

"That ringbone be defined as a phalangeal ostitis with exostosis partially or completely surrounding the pedal, coronary or fetlock joints accompanied or not by arthritis."

Pyramidal disease is another well-marked instance of ostitis affecting the centre of the coronet, when lameness is the first symptom, without any definite alteration of the coronet or hoof to indicate the position of the disease, but here the lameness is fairly diagnostic at the outset—the animal will put the leg well forward and draw it back quickly on the heel, the pain is very intense and there will be marked tenderness on pressure in that region; frequently the bone becomes softened and fracture may take place.

I had intended to say a few words on "hip joint lameness and gonitis"—diseases which are of special interest to town practitioners because of their frequency, particularly in these days of slippery streets and highways; but my time is up, and I must not stand between you and further discussion.

I have endeavoured to incorporate in my remarks something of the observations and experiences which a long professional life has afforded me, and, even if I have

told you nothing new, I think it is good for all of us to compare notes from time to time, for it is only by pooling our experiences in common counsel, such as this, and by working along the lines of mutual help and earnest endeavour, that we can best accomplish and perfect our great and important task.

Before sitting down I would like to express my own personal thanks to Professor O'Connor for his excellent contribution and for the opportunity he has given us of saying a few words on this vast and important branch of veterinary study. (Applause.)

Professor W. M. MITCHELL (Edinburgh): The problem of lameness is a very important one, and at the present time I can only deal with one or two points regarding it. I think that during the last ten or twenty years veterinary practitioners have got it into their heads that they know everything about bone diseases. If you look through the files of the *Veterinary Record* for the last twenty years or so, you will find evidence in support of my statement. I have been looking into the question of bone and joint disease in relation to lameness and it is extraordinary to find the large number of parts of the skeleton of the horse which may be affected at one and the same time, though not all cause clinical signs. It is up to us to try to fathom the cause of this generalised disease of the horse with its outcrops of definite local signs which we call ringbone, spavin, etc.

The problem is the same as confronts the medical profession in the group of disease slumped under the term "rheumatic diseases."

People in research laboratories cannot see a horse from birth to death in the same way as practitioners do, and in invidious diseases, so often associated with lameness, the practitioner has the better chance of getting at the beginning of the disease process.

It is better to be sceptical about causes than to go along believing everything you have heard from older people. If the young men of the veterinary profession want to gain something from the clinical point of view with regard to lameness, they should read Mr. Hunting's articles in the *Veterinary Record*. They are well worth reading. I think his papers would be well worth collecting, and would form a very useful book for us all.

Mr. A. W. NOEL PILLERS (Liverpool): I did not expect to be called upon to speak and have not made any notes on Professor O'Connor's paper on the subject of lameness. I must confess, at the start, that I am not in agreement with the choice of the subject. I think those who asked Professor O'Connor to write a paper on "Lameness" are deserving of some censure, because they asked him to discharge a task which it is almost impossible to do, and he, in his turn, has given us the kind of paper we should expect for students. I do not think I can add much to what he has said. Lameness is a tremendously big subject. There are various kinds of lameness—lameness amongst heavy horses and light horses, and any one form is sufficient for a paper. Professor O'Connor has mentioned a number of hereditary diseases, but I would not like it to go out from this meeting that we all consider them hereditary. I think that some, at least, of those diseases are bacterial.

Principal F. T. G. HOBDAY (London): I agree with the two previous speakers when they say that it is utterly impossible to deal with this large subject in one paper. Everyone will admit that the cow and the dog have assumed an importance that would not have been thought of twenty years ago. The question of lameness is of as much interest in the case of these animals as it is in horses. Some of the cases of lameness are due to dietetic errors and rheumatism. Then, there are cases which are due to constitutional troubles. In the case of the cow, lameness, particularly in the hind quarters, is frequently due to constitutional trouble. When one has a large number of canine patients one finds many instances in which it is difficult specifically and accurately to diagnose the cause of lameness. There are some things with which Professor O'Connor has not dealt in the diagnosis and treatment of disease. These are within the reach of all of us, and will certainly be used to an increasing extent within the next few years—I refer to the respective uses of the cinema camera, the X-ray, and to *post-mortem* examinations. These are all very useful for teaching purposes. We veterinarians should take advantage more than we do of the help of the more complete equipment of our medical colleagues, who are generally willing to render us assistance. In a few years' time I am sure that the use of X-rays will be able to be obtained by every practitioner. The cinema camera can be used as a valuable aid to teaching the student the mode of prognosis, and as an aid to the diagnosis of nearly every form of lameness. The ultra violet rays are now in constant daily use for certain diseases, and so are sun lamps. I think everyone will admit that experience, however, is the greatest teacher of all.

Capt. H. S. ELPHICK (Newcastle-upon-Tyne): The paper by Professor O'Connor could not have been much improved upon, considering the wide nature of the subject entrusted to him. Its title would have been better as "Lameness in the Horse." Whilst agreeing with the essayist in all he has said, I do think he might have touched on some of the mysterious lamenesses which we meet.

I recall one instance when I was at the London College. A cabhorse fell in Russell Square and every endeavour was made to get it to rise, but without avail. Eventually "Harrison and Barber" were sent for and as the knacker cart drove up the cab-horse got up. This was no doubt a case of iliac thrombosis or kidney dropping, and was relieved by the rest on the street, the paralysis passing away and the horse getting up. It would be as well, therefore, to examine *per rectum* any horse so falling.

Then there is lameness arising from liver trouble, the horse going lame on the off fore leg and the mucous membranes being icteric; such require only a dose of physic.

I have also seen cases of lameness in the hind limb from abscess in the kidney. I am afraid the stiff knees and hocks found in pit ponies somewhat upset Professor Mitchell's theory of rheumatism.

Mr. W. JACKSON YOUNG (Newcastle-upon-Tyne): I see many lame cattle, sheep and swine in the course of my duties and am always interested in the subject of diagnosis. I find epiphyseal fractures of the metacarpal and metatarsal bones very commonly in cattle. Foreign bodies are very frequently the cause of lameness in cattle. I am very much interested in one of the synonyms for exostosis given in the paper, namely, "babba" bone, and I would be glad if Professor O'Connor could supply the origin or derivation of that term. In exchange for such information, I will

supply another word, "Jordon," for a deposit of bony matter on the outside of the hock in horses which causes lameness. Being at a loss to understand this term, which I found in a book written by a Newcastle veterinary surgeon in 1833, I consulted a practitioner in the district who had much experience of colliery practice, and the explanation offered was a very sensible one, namely, that the term most probably arose from the "jogging on" that the pit ponies received from the toes of driver's boots as they sat on the limbers. I was bitterly disappointed that the paper did not deal with lameness in other animals, in addition to the horse.

The Reply.

Professor O'Connor, in his reply, thanked the members for the way they received his paper, and said that it would be impossible for him to deal exhaustively with the subject of lameness and that he had thought it would be best to treat it in a general way, leaving special cases to be introduced in the discussion. He had in his mind that many of the members would be comparatively recent graduates and that it would be a good thing to remind them of the necessity of being careful and methodical when examining animals for lameness. Even more mature graduates might benefit by a revision of the subject in an apparently elementary manner. He was glad that Mr. McIntosh, an acknowledged authority in veterinary practice, had amplified his paper by dealing with specific cases of everyday importance and giving practical advice on certain points.

With regard to lameness without pain, proceeded the essayist, I think it would often be difficult to make sure that lameness is purely mechanical, as inflammation may be present without obvious local symptoms. If the term lameness is confined to cases associated with pain I wonder what name would be given to those of mechanical origin. I doubt if there are many cases of purely mechanical lameness. I believe a horse may be lame and yet stand square in the stable without shifting or pointing the foot of the affected limb.

Professor Mitchell's theory of the origin of bone affections is interesting.

I am surprised that Mr. Pillers believes that very few of the conditions mentioned are hereditary. His reference to symbiotic mange as a cause of lameness, by leading to fracture of one of the phalanges, is useful. With regard to lameness in other animals, referred to by Prof. Hobday, I am of opinion that if lameness were mastered in the horse it would be a simple matter to deal with it in other animals. I am not always so fortunate as Prof. Hobday in having dogs practically telling me where they are lame. Greyhounds are sometimes puzzling as to the seat of lameness, especially in the hind limbs.

I have had no experience of violet rays in the treatment of lameness. The cinema would be useful for teaching purposes.

Mr. Elphick's remarks were instructive. I wondered how liver affections cause lameness in the off fore limb, although I heard of it in my student days. It would be impossible for me to deal with individual cases of lameness. I am sure Mr. Elphick has nothing to learn about sand-crack.

I am sorry I cannot enlighten Mr. Jackson Young on the derivation of the word "babba."

Mr. McIntosh: I think it would be a very good thing if this Congress to-day could decide on a closer definition of the term "ringbone." Professor Mitchell in his views is rather inclined to widen the issue, but I think it is sufficient for us at the moment to confine ourselves to its clinical characters, and in this direction it is desirable that the profession should have some definite guidance. At present the term is too loosely applied, and it is not uncommon to find a professional man of eminence declaring a horse to be suffering from "ringbone" when another is equally emphatic that there is no "ringbone."

I would like therefore to submit the following resolution:—

> "That ringbone be defined as a phalangeal ostitis with exostosis partially or completely surrounding the pedal, coronary or fetlock joints, accompamied or not by arthritis."

If we confine "ringbone" to these conditions only, we shall have done much to clear the air and to prevent that conflict of evidence which is too frequent to-day.

The resolution failed to find a seconder, and the session terminated.

REVIEW.

[**Modern Horse Management.** By Major Reginald S. Timmis, D.S.O., Royal Canadian Dragoons. Pp. xxii. and 325, with 80 photographs. London. Cassell and Co. 15s. net.]

This is a comprehensive work and its various contents should meet the needs of those who are interested in the welfare of horses. Its thirteen chapters give information concerning the history and psychology of the horse, principles of training, condition and exercise, riding, driving and transportation, saddles and sorebacks, bitting, feeding and watering, grooming and stable management; construction and sanitation of stables; the foot, shoeing, lameness, injuries, dentition, antiseptics and anæsthetics; the horse in sickness; breeding and care of mare and foal; drugs commonly used for horses and a glossary of terms.

Amongst its many instructive pages special commendation should be given to those devoted to foods and feeding. The chapters on the foot, shoeing and ailments of the horse are less satisfactory, and in several places the descriptive anatomy is only approximately correct. Exception may be taken to the remark, under anæsthetics, that so far as horses are concerned, it is only quite recently that the use of chloroform has become general. The further statement that:—"Even now, it is quite common to find veterinarians who are not willing to give an anæsthetic, either to save expense or because of lack of knowledge and practice in administering the drug"—can only be regarded as an unwarranted reflection on British veterinary surgeons. Those who may follow the advice (p. 267) that: "It is usual to remove the hobbles as soon as the horse is insensible," should be warned that it is neither usual nor advisable to remove the hobbles at that stage of anæsthesia. The 80 photographs are very good.

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ERADICATION OF BOVINE TUBERCULOSIS.

Great movements often have very small beginnings. Let us therefore approach in the right spirit the Scheme for the eradication of bovine tuberculosis put forward from the West of Scotland Division, and the text of which was published in our issue of September 21st. We in the veterinary profession are very apt to grumble at lack of recognition of our services in this country and certainly not without good reason, but, if blame there is, we cannot escape some which attaches to ourselves on account of our apathy and lack of cohesion.

The bovine tuberculosis problem will have to be tackled by the country in a proper fashion before long because, as everyone knows, the Tuberculosis Order and other measures are only touching the fringe of the problem, and do nothing to get at the root of the matter.

If the veterinary profession will take up this question seriously and evolve a thoroughly good Scheme which can be laid before the proper authorities, such pressure can be brought to bear that Government will be compelled to act.

There is no need for us now to dwell on the serious nature of the problem. The Agricultural Associations are well aware of the losses occasioned to them, the National Federation of Meat Traders' Associations needs no urging, and the Royal Sanitary Institute would also support us. The problem is both an agricultural and a public health one, and we ought to be able to rely on the support of the medical profession. The case we can jointly put forward is an overwhelming one and rightly presented should be irresistible. The Federation of Meat Traders' Associations has been pressing upon the Ministry of Health for years, without any success whatever, the need for universal inspection and the eradication of the disease, and is now seeking co-operation with other bodies in the matter to strengthen their case.

Is it not for the veterinary profession to lead? If we do not, it is difficult to see who can do so with equal effect. But, first of all, we must have our Scheme perfected and all our plans cut and dried.

Let us therefore regard the West of Scotland Scheme as a basis from which to start and let it not be merely discussed by the Divisions of the Scottish Branch, but let the Divisions in England and Wales take up the matter as well. Finally, when we have an agreed Scheme approved by the National Veterinary Medical Association and the Royal College of Veterinary Surgeons, let it go forward for criticism and approval by other bodies and let joint representation be made to the Minister of Agriculture. The bovine tuberculosis problem is primarily an agricultural problem; it becomes only secondarily a Ministry of Health problem and we must see to it that it does not fall between the two Government stools of Agriculture and Health.

It appears to us that bovine tuberculosis has for long enough been tackled from the wrong end. We seize tuberculous carcases, we seize cows with tuberculous udders, we spend much time and energy in detecting the disease after it has done all the damage, but we do next to nothing effective in cleaning up herds and geographical areas. We have always been met by the cry that there is no money and we shall be met by that cry again, but if Empire Marketing is worthy of a £1,000,000 fund and if like amounts can be given to establish the Development Commission, we have ample justification for demanding that the sum of £1,000,000 be set aside as an Animal Tuberculosis Eradication Fund, the fund and scheme to be administered by a special Board and the work organised by a special branch of the veterinary service of the Ministry of Agriculture with the help of county and other veterinary officers and the general practitioners. Moneys spent will all come back to the country eventually in savings on present losses, inspections, sanatoria, and so on.

The matter is a vital national problem and we have a golden opportunity of serving the country well. Let us pull together and get on with it.

CLINICAL AND CASE REPORTS.

Chronic Bovine Pneumonia.

By R. H. Smythe, M.R.C.V.S., Camborne.

We have, in recent years, frequently encountered a type of lung affection in bovines which does not appear to have been described in veterinary literature.

The Tuberculosis Order has been the means of bringing most of these cases to our notice, as the appearance of animals suffering from this chronic type of pneumonia is almost identical with that exhibited by those affected with extensive pulmonary tuberculosis and affected cattle are frequently reported to the authorities by their owners.

Symptoms.—The disease may appear quite suddenly, or it may be preceded by cough for some days or weeks before definite symptoms of pneumonia become apparent. It frequently appears either shortly before or soon after calving. The temperature is seldom very high and many cases show no febrile reaction. Appetite usually remains normal until the lung changes have become sufficiently extensive seriously to interfere with respiration, and even at this stage a desire to eat is evident. Rumination is but little interfered with.

The breathing is typical. Abdominal respiratory movements are pronounced and inspiration is accompanied by a peculiar "jerking" movement of the ribs, not unlike that seen in some asthmatical conditions. The number of respirations is increased according to the extent of the lung tissue involved, and hurried, forced movements are attended with marked dyspnœa. The cough is frequent—more so after exercise—and has a very marked loud, "hollow" sound. It is usually accompanied by the dis-

charge of sputum with some force and frequently a thin nasal discharge is present throughout.

Loss of flesh occurs rapidly in the early stages, but ceases or progresses but slowly after the animal has reached the stage of moderate emaciation. Sometimes fairly good condition is maintained. Lactation diminishes to about one half the normal yield.

Auscultation reveals very loud râles and wheezing noises in every part of the chest, but percussion yields little information, unless it be excessive resonance in the higher portions of the thorax, due to the fact that the lowest parts of the lungs are solid.

COURSE.—The condition commonly persists for months and has terminated in slaughter in all the cases observed by us. Neither natural death nor recovery has been noted. The animal arrives at a condition in which it is no longer profitable and is permanently emaciated.

The disease does not appear to be contagious; on only one occasion were two cases met with in one herd, and cows appear to rear their calves without infecting the latter.

DIFFERENTIAL DIAGNOSIS.—*Tuberculosis.*—Animals affected with the chronic type of pneumonia, herein described, do not react to tuberculin, unless tuberculosis be co-existent. We have not yet met the two conditions in the same subject. The possibility of a suspected case of pulmonary tuberculosis being in reality one of chronic pneumonia and the similarity of their appearances, is further evidence of the advisability of employing the tuberculin test, in all cases, before giving a definite diagnosis.

Parasitic pneumonia may be distinguished by the presence of parasites in the sputum and partly, also, by the fact that several members of the herd usually show symptoms of "husk."

Contagious bovine pleuro-pneumonia presents a rather similar picture, but is more contagious, whilst in chronic pneumonia pleurisy and œdematous swellings of the chest wall are rarely, if ever, met with.

POST-MORTEM.—Lesions are confined to the lungs and bronchial glands. The latter are enlarged and watery and may in rare instances contain pus centres.

The visible lesions are (*a*) pneumonia; (*b*) emphysema. The pneumonic changes may occupy either only the inferior borders or the greater part of both lungs and greatly resemble those occurring in contagious bovine pleuro-pneumonia. There is marked increase in the interlobular connective tissue together with thickening of the walls of the bronchioles. Hepatisation is very pronounced, the affected portions of lung are raised above the surface and their cut surfaces range in colour from grey, through reddish-brown, to black, with considerable areas of necrosis. Large necrotic areas appear, in long-standing cases, to become re-absorbed so that one lung may have so diminished in size as to be hardly recognisable. A frothy, muco-purulent, fluid is abundantly present, but there is no lymph or straw-coloured exudate as in pleuro-pneumonia. Emphysematous areas occur throughout the lung tissue, and air vesicles appear in large numbers beneath the pleural covering, particularly around the inferior edges of the lung.

Curiously, pleurisy has not been noted, in spite of the extensive pneumonic changes present in so many cases. No bacteriological investigation has so far been undertaken and the etiology of the disease is obscure.

REMARKS.—It is probable that prior to the introduction of the Tuberculosis Order, the majority of cattle thus affected were destroyed as tuberculous without further examination and so may not have come to the notice of veterinary authors with sufficient frequency to warrant investigation or special mention. In recording the condition, it is our desire to ascertain the degree of prevalence and its general importance and we should welcome information on these points, together with references to any existing literature on the subject.

"Potato Poisoning."

By H. M. Wilson, M.R.C.V.S., Cupar, Fife.

I read with interest the paper by Mr. H. P. Standley, senr., and the discussion thereon, printed in the *Record* of 31st August.

I am surprised that more was not said about "Potato Poisoning." This condition is met with when potatoes have been a plentiful crop but their sale difficult, with the result that farmers have sometimes a large quantity left on their hands, and it seems that the most useful purpose to which they may then be put, is to feed cattle with them. The condition is met with sometimes, too, where cows have simulated the action of naughty little boys stealing jam! I do not wish it to be thought that I am by any means against feeding cattle with surplus potatoes, but merely wish to point out that cases of "Potato Poisoning" occur when potatoes are fed to excess.

SYMPTOMS. The animal is hoven, and frequently grunts; there is loss of cud and there may be scouring (especially if the potatoes are none too good); borborigmus is frequent; the temperature is in the region of 102½° to 103°, and a marked symptom is a swelling of the legs, especially the fore-legs and in the brisket region; consequently, the animal is inclined to be stiff and does not care to lie much. While the symptoms look not a little alarming, the condition, happily, is usually easily righted.

TREATMENT. Starvation for at least two days; a good dose of opening medicine, followed by stomachics; "chilled" water to drink, and exercise.

From The Veterinarian, March, 1829.

Case of Suspected Glanders.

By MR. WATT, James's Place, Edinburgh.

On the 8th of August, 1828, I was called to examine a bay cart horse, the property of Mr. H——, Cannon Mills, which he had purchased two days before at Lanark Fair, from a horse-dealer, for £20. The animal had not been in his possession half an hour when he was informed by several persons that he had purchased a glandered horse; that they had known him to be so for a considerable time, and that, for the last twelve months, he had been bought

and sold for various sums, from £5 to £30, at the different markets in West Lothian, according as the persons into whose hands he happened to fall could manage to cheat a purchaser. On receiving this information, he began to inquire after the dealer who had sold him the horse, but in vain: he had fled from the market to avoid detection. Finding he had little prospect of recovering his money, he exposed him for sale, but was only offered £3 for him. Under these circumstances he considered it better to bring him to Edinburgh, and try if he could obtain a cure. During the journey from Lanark to Edinburgh the opinion of the farriers and horse dealers on the road, all of whom were consulted, was, that the horse was decidedly glandered. When I saw him there was a considerable discharge of rather a curdled-like matter from the off nostril, with enlargement of the submaxillary lymphatic gland of the same side, but no ulceration of the schneiderian membrane. From these symptoms it occurred to me that this was one of those cases which I had heard Mr. Dick describe in his lectures, which is mistaken for glanders, but which, is, in fact, only a cyst of matter formed in one or other of the sinuses of the nose. I therefore directed the horse to be brought back for examination in eight days, when Mr. Dick (of whose advice I wished to avail myself) attended at my request, and coincided with me in opinion that a cyst had formed in one of the nasal sinuses, and that it was not glanders, as had been before supposed. It was, therefore, proposed to the owner, to make a perforation through the nasal bone, and lay open the sinus, to which he immediately agreed as, to use his own words, we were either to kill or cure. Having laid the integuments aside, a perforation was made into the nasal sinus, one inch and a half from the inner canthus of the eye, and about an inch in diameter, with a trephine. When the instrument was withdrawn, there escaped from the perforation about half-a-pint of thick purulent matter, very white in colour, with no smell. The sinus was then syringed with tepid water, a small quantity of lint put into the orifice, and the integuments brought together by adhesive plaster. On the morning after the operation it was found that the discharge from the nostril had entirely ceased, and although very copious discharges took place from the wound, and continued rather irregularly during the cure, not a drop either of matter or of the fluids injected into the orifice ever escaped by the nostril. To give a full account of the treatment of this case would take up too great a space in your valuable magazine; I shall only mention, in a summary manner, the different medicines that were used during the progress of the cure. For a short time after the sinus was laid open, it was syringed daily with tepid water, to wash out the matter, and a solution of the superacetate of lead injected: this was changed, in about a week, for equal parts of turpentine and olive oil. A solution of alum was tried for eight or ten days, to check the copious discharges, which still continued: this afterwards gave place to a solution of the sulphate of zinc. As these means had only given a partial check to the discharge, and as it frequently burst out afresh in increased quantities, it was suspected that there might be a lodgment of matter also in the maxillary sinus, which was therefore opened by a common gimlet, but from this opening no matter escaped. The former opening was then syringed with a solution of the sulphate of copper, under the use of which the discharge gradually ceased, the perforation filled up, and the external orifice healed about the 18th November last, the horse never being one day off work, and he has now been three months quite well. I am aware that this operation has been performed and recommended by La Fosse; but I believe the result was that the animals were destroyed soon after, there being little appearance of a cure. I have not heard whether these cases have ever been described or observed by any veterinarian before Mr. Dick, but the result of this case certainly shows how cautious practitioners ought to be before deciding on glanders, as many valuable animals may be destroyed, having such symptoms as were exhibited in this case, while glanders do not really exist. I therefore think that this is a subject well deserving the attention of veterinary practitioners.

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£1 0 0 "Anonymous"; "Anonymous" (per the Secretary of the New Zealand Veterinary Association); "Anonymous" (per Mr. J. Pickup M.R.C.V.S.); "Anonymous" (per Captain L. Sewell, M.R.C.V.S.); The Misses Arkle (per Captain E. F. Wood, M.R.C.V.S.); Mr F Bailey (per Miss M Bramson); Mr L. Barton (per Major H. H. Brassey-Edwards, M.R.C.V.S.); Mrs. Beck (per Mr. C. J. H. Gale, M.R.C.V.S.); Mr. A. Harold Bibby (per Captain E. F. Wood, M.R.C.V.S.); Mr. W. Bramson (per Miss M. Bramson); Mrs. Hamilton-Brown—Miss A. Brownlow (per Col. W. Kemmis); Mr. H. Clare (per Miss M. Bramson); Mrs. Arthur Cook (per Captain E. S. Martin, M.R.C.V.S.); Mrs. Croxall; Mr. B. H. Dalrymple—Mr. H. Dalrymple (per Col. W. Kemmis); Miss I. Dalrymple (per Major F. C. Gavin, M.R.C.V.S.); Miss Davis (per Mr. H. Bell, M.R.C.V.S.); Mr. C. Davis (per Major H. H. Brassey-Edwards, M.R.C.V.S.); Mr. J. F. Davison (per Mr. R. Paine, F.R.C.V.S.); Miss Edmonds (per Mrs. O. Simons); Miss M. Edmunds; Miss Fernie (per Captain E. F. Wood, M.R.C.V.S.); Major H. A. Fletcher (per Mrs. F. M. Gillard); Mr. C. H. Girar—Mrs. Grant (per Major F. C. Gavin, M.R.C.V.S.); Miss L. Goodricke; Commandatore Grassi; Mrs. J. C. Gray; Miss M. Gush; Mrs. T. G. Hill; Mr. C. Howard (per Miss M. Bramson); Miss E. M. Irvine; Miss I. Joel; Mr. J. J. Johnson (per Mr. J. Bainbridge, M.R.C.V.S.); Mr. G. M. G. Kemmis (per Col. W. Kemmis); Col. W. Kemmis; Mr. F. P. Kimbell (per Miss M. Bramson); Miss O. A. Lambley; Miss S. Langworth; Miss E. Loyd; Mrs. Mabre (per Captain E. F. Wood,

M.R.C.V.S.); Mrs. B. A. MacGuire (per Mrs. G. Wooldridge); Mr. A. S. McKendrick (per Major H. H. Brassey-Edwards M.R.C.V.S.); Mrs. H. Milburn; Mr. W. E. C. Mitchell (per Major F. C. Gavin, M.R.C.V.S.); Mr. W. Nixon; Earl of Northesk; Mrs. Oliver (per Captain F. G. Buxton, M.R.C.V.S.); Out-patient Donor; Miss I. Potter (per Col. W. Kemmis); Mrs. C. J. Pryer; Mr. Y. A. Quimfso (per Col. R. J. Stordy, M.R.C.V.S.); Lt. J. Reid (per Mr. J. H. B. Best, M.R.C.V.S.); Miss M. Ritson; "R.M.S." (per Miss H. Bisset); Mrs. G. P. St. George (per Captain E. F. Wood, M.R.C.V.S.); Miss Simms (per Captain E. S. Martin, M.R.C.V.S.); Mr. Slowburn (per Miss M. Bramson); Mrs. R. Steele; Miss D. M. Stordy—Mrs. R. S. M. Stordy (per Col. R. J. Stordy, M.R.C.V.S.); Alice Lady Teignmouth (per Mrs. F. M. Gillard); Mr. C. H. Tomkins (per Mr. J. Bainbridge, M.R.C.V.S.); Major C. Warner (per Col. W. Kemmis); Miss M. Watney (per Mrs. F. M. Gillard); Miss C. Watson (per Captain E. F. Wood, M.R.C.V.S.); Miss R. Whitaker; Mr. C. H. N. Whitworth (per Col. W. Kemmis); Mr. H. Williams—Mr. J. Winn (per Major F. C. Gavin, M.R.C.V.S. Mr. A. Woolley (per Miss M. Bramson); Mr. C. B. Young (per Col. W. Kemmis).

Members of the Royal College of Veterinary Surgeons:—Messrs. W. A. Allen, M.R.C.V.S.; W. Earnshaw, M.R.C.V.S.; W. F. Egan, M.R.C.V.S.; A. B. Howe, M.R.C.V.S.; R. S. Howe, M.R.C.V.S. (per Major W. B. Howe, M.R.C.V.S.); and J. W. Hall Masheter, M.R.C.V.S.

AMOUNTS UNDER £1 0s. 0d.

1	@	19/–	4	@	7/6
2	@	18/6	4	@	7/–
1	@	18/–	3	@	6/–
1	@	17/6	1	@	5/6
1	@	15/–	1	@	5/1
2	@	14/9	46	@	5/–
1	@	12/–	1	@	4/–
1	@	11/–	2	@	3/–
18	@	10/6	12	@	2/6
54	@	10/–	1	@	2/–
1	@	8/10	4	@	1/–

TOTAL AMOUNT OF SUBSCRIPTIONS TO FUND, INCLUDING AMOUNTS SHOWN ON COLLECTING CARDS, ETC. **£32,605 9 0**

Royal Veterinary College.

THE FIFTY-FOURTH ANNUAL REPORT FOR THE YEAR ENDED 31ST MARCH, 1929.

In presenting the Annual Report for the year 1928-29 the Governors deeply regret to have to record the death of the following members of the Governing Board:—

The Earl of Northbrook, Chairman; Mr. E. M. Crookshank, Chairman of the General Purposes Committee; The Marquess of Lincolnshire, K.G., G.C.M.G., Vice-President, and Major-General Sir Henry Ewart, Bart., G.C.V.O., K.C.B., Governor.

At the Annual General Meeting held in July, 1928, Lt.-Col. Sir Archibald Weigall, K.C.M.G., was elected Treasurer of the College, and Lt.-Col. Sir Merrik R. Burrell, Bart., C.B.E., a Trustee.

At the Quarterly Meeting of the General Purposes Committee held in July, 1928, Lt.-Col. Sir Merrik R. Burrell was elected to succeed Mr. E. M. Crookshank as Chairman.

The Governors have appointed the Principal of the College to the office of Dean.

In reporting the changes in the personnel of the staff during the year special reference must be made to Professor James Macqueen. Professor Macqueen has given splendid service to the College for the long period of 40 years, and the Governors take this opportunity of recording their appreciation of his loyal service to the College.

THE SCHOOL.

The Governors are again able to report that the educational work of the College has been carried out in a satisfactory manner.

During the year 1928-29, 69 Students entered the College, as against 32 in the preceding year. The number of Students in attendance at the beginning of the Winter Session 1928-29 was 159. The number for the preceding Winter Session was 119.

Of the 141 Students of the College who presented themselves for examination during the year, 83 (or 59 per cent.) passed, while of 268 Students who presented themselves for the same examinations from the other Veterinary Colleges, 61 per cent. passed.

During the previous year 129 Students of the College presented themselves for examination, of whom 76 per cent. passed, while from other Veterinary Colleges 257 Students presented themselves, of whom 70 per cent. passed.

In 1928 the number of Students of the College who obtained the Diploma of the Royal College of Veterinary Surgeons was 24. Twenty Students succeeded in passing the First Professional Examination, 24 the Second, and 15 the Third. The numbers during the previous year were 26, 21, 24 and 27 respectively.

INFIRMARY.

The number of animals retained for treatment in the Infirmary has been 979, as against 836 in the preceding year.

The daily average number of horses in the Infirmary during the year has been 12; in 1928 the average was 10.

From 1st April to 31st August, 1928, the charge for the keep and attendance of a horse was 4/6 per day, but from 1st September this amount was increased to 6/- per day.

The daily average number of dogs under treatment has been 30, as against 23 last year and 18 in the preceding year.

The charge for the keep and attendance of dogs and cats was increased at 1st September from 1/6 and 9d. per day respectively to 2/6 and 1/6 per day respectively.

For animals the property of Subscribers brought to the College for treatment the following charges have been fixed:—

X-Ray of Dog or Cat, from One Guinea to Two Guineas. Horse, Two Guineas to Three Guineas.

Ultra-Violet Rays—Dog or Cat 2/6, and Horse 5/- each application.

Examinations for Soundness.—During the year the number of horses examined for soundness has been 115, the number during the preceding year being 93.

Subscribers.—Six hundred and eighteen new subscribers have been enrolled during the year ended March 31st, 1929.

There are at present 42 Life and 1,465 Annual Subscribers.

Out-patients' Clinique.—During the year 4,913 individual cases have been brought for advice or treatment, and as several of these pay more than one visit, the total number of inspections which have taken place amounts to 6,263. The numbers last year were 5,221 and 6,749 respectively.

REBUILDING OF THE COLLEGE.

At 31st March the total of the Fund for rebuilding and equipping the College was £30,759 1s. 5d.

In June last, as a result of a Conference at the Ministry of Agriculture and Fisheries, a Special Meeting of the General Purposes Committee was convened, and it was decided to ask the Minister of Agriculture to set up a Departmental Committee to report upon the whole future of the College, including its location and its educational and research work. The request of the Governors was acceded to and the Committee are nearing the end of their deliberations. It is earnestly hoped that the Report of the Committee will be issued within the next few months.

Special Appeal.—In the last report reference was made to the fact that the Chairman of Spratt's Patent Limited had issued a Special Appeal for a minimum sum of £20,000 for the endowment and establishment of a Professorship and the buildings for a special department in the College for the advancement of canine medicine and surgery. This appeal is being actively carried on: satisfactory progress is being made, and £5,000 of the proceeds of the first "National Dog Week" have been handed over by the Council towards the sum aimed at.

Clement Stephenson Fund.—In September last a "Clement Stephenson Entrance Scholarship" was awarded to Mr. E. G. White. These Scholarships are of the value of £80 per annum, and are tenable for four years. The Trustees intend to offer one Scholarship for competition in September next.

Wireless Appeal.—The sum received from the Principal's wireless appeal for funds for the Poor Out-patients' Department amounted, on 31st March, to £1,704 0s. 7d., and donations are still being received daily.

Coleman and Centenary Prizes.—The Principal and Professors recommend that the Centenary Prize be awarded in Class A to Mr. E. G. White; in Class B to Mr. S. L. Hignett; in Class C to Mr. J. C. Rix; and in Class D to Mr. T. A. R. Filgate.

R.C.V.S. OBITUARY.

BENNETT, Capt. Fredk. P., Horley, Banbury, Oxon. Graduated, N. Edinburgh, 29th April, 1884. Died, 28th September, 1929. Age 64.

STEWART, A. P., 17 Grosvenor Road, Market Drayton, Shropshire. Graduated, Glasgow, May 25th, 1895. Died, 19th September, 1929.

WALTERS, Colonel W. B., 3 Vanbrugh Park, Blackheath, S.E. Graduated, London, May 4th, 1860. Died, September, 1929.

DIVISIONAL REPORT.

Veterinary Medical Association of Ireland.*

A meeting of the Veterinary Medical Association of Ireland was held in the Veterinary College, Dublin, on Thursday, August 8th, 1929, when there were present: Mr. J. Dodd (President), the Chair, also Messrs. G. C. Ryan, C. M. Griffin, Sean O'Donovan, W. Nyhan, J. J. Dunoon, Prof. W. Kearney, J. M. Murphy, P. A. Rogan, P. A. McCorry, A. F. O'Dea, L. M. Magee, T. R. Mulcahy, P. J. Howard, F. J. Daly, E. V. Kelly, M. F. Murphy, Prof. T. G. Browne, P. F. Dolan, J. M. Morris, F. W. Taylor, S. R. J. Cussen, T. O'Leary, H. O'Leary, T. A. Mernagh, T. H. Ryan, J. J. Kenny, F. O'Leary, P. J. McGlinchy, E. W. Little, W. C. Greene, and Prof. J. J. O'Connor (*Hon. Secretary*).

An apology for non-attendance was received from Mr. P. J. O'Carroll.

The Chairman called upon Mr. Sean O'Donovan, M.R.C.V.S., D.V.S.M., Assistant Veterinary Officer, Dublin Corporation, to read his paper, entitled "The Veterinary Inspection of Fairs and Markets."

"The Veterinary Inspection of Fairs and Markets."

By S. O'DONOVAN, M.R.C.V.S., D.V.S.M.,
Assistant Veterinary Inspector, Corporation of Dublin.

It is with feelings of awe that I appear before you in this, my initial effort to contribute seriously to the proceedings of your meeting. I feel very incapable of dealing worthily with the important subject which has been allotted to me; it would require a far more efficient scribe than I am to treat it satisfactorily, and at the same time make it interesting to you all—general practitioners, inspectors, whole and part-time, as well as the members of our College staff.

The title suggested for my paper, namely, "The Veterinary Inspection of Fairs and Markets" is a weighty one, and becomes more ponderous as one sits down to write about it and examine the wide field it embraces. To make it comprehensive it must necessarily include at least an outline of the Acts and Orders under which the inspector operates. If treated in anything approaching detail, this section would be very immense indeed—beyond my achievement and necessarily beyond the scope of this paper. I have to give you something of interest in relation to the actual experience of inspection, and I feel that I cannot write without introducing some criticisms of the present Orders and their administration throughout the country. I feel certain that in your subsequent discussion the criticism of my remarks will be raking. However, my object may be achieved in engendering an enlightening debate.

The term "Veterinary Inspector" is defined only by Section 59 of the Diseases of Animals Act of 1894. A veterinary surgeon operating under the Public Health Acts does so in virtue of being a sub-sanitary officer of the Sanitary Authority by which he is appointed. In the Local Government Act of 1925, however, Section 22 specifies that "at least one of the sanitary officers appointed

*Received on 29th August.

by any Sanitary Authority under the provisions of Section II of the Public Health (Ireland) Act of 1878 shall be a duly qualified veterinary surgeon, and the duties assigned to such officer shall include inspection and examination of meat, inspection of cattle in dairies and other similar duties." I believe this section is looked upon with considerable jealousy by the members of our profession in England. Some may object to be classified as sanitary officers. The Medical Officer of Health is primarily a sanitary officer, and therefore I do not think there is anything in such an objection.

Our Public Health Acts are those of 1878 and 1890. Section 132 of the first Act gives power to any sanitary officer to inspect and examine any animal, carcase, meat, poultry, game, flesh, fish, fruit, vegetables, corn, bread, flour, milk or butter exposed or being conveyed for sale or deposited for the purpose of sale or of preparation for sale and intended for the food of man . . . . and if such animal, etc., appears to him to be diseased or unsound or unwholesome or unfit for the food of man he may seize and carry away the same in order to have it dealt with by a Justice. Section 133 then gives the Justice the power to condemn such seized article and order it to be destroyed. The Amendment Act of 1890 applies these Sections to all articles intended for the food of man. These are the fundamentals of Veterinary Inspection of Fairs and Markets, as far as the Public Health Acts are concerned. In Dublin there are two local Acts, namely: The Dublin Improvement Act of 1849 and the Dublin Improvement Amendment Act of 1864, under which proceedings are often taken as the result of seizures of different articles of food. The Act of 1849 empowers the Lord Mayor, his assistants or deputies to seize unsound meat or provisions. The Amendment Act empowers the same to seize "any cattle exposed or offered for sale in a market, which may appear unfit for human food or to be labouring under or infected with any contagious or infectious disease." I do not know if any other Irish borough has such local Acts.

You will observe that under the Public Health Acts "any" sanitary officer can seize any animal, carcase, etc. Now, in actual inspection even the experienced veterinary surgeon finds that he does not frequently meet a case of an animal which he can seize and certify *ante-mortem* as being unfit for human food. Still, such cases occur; they are rarer in Dublin now than formerly. You will agree that it is only a veterinary surgeon who is capable of performing this inspection with justice to the owner and the public. I presume that this duty would be included in the phrase "and other similar duties" of that section already quoted from the Local Government Act of 1925. Several veterinary surgeons have already been appointed under this Act. I wonder if they inspect the fairs and markets in their districts.

A point worth emphasising here is that the inspector has no right to condemn anything. He has the right to seize; the Justice has the power of condemnation and of ordering the destruction of the seized article. The owner can object and produce evidence before the Justice. The obtaining of destruction orders often involves a considerable loss of time to the inspector.

Here I find the scope of my paper further widened; fairs and markets to me, at first, as probably to most of you, meant fairs and markets of live stock. Now the Public Health Acts give the sanitary officer power of inspection, etc., of all food articles. In Dublin these duties are carried out by the Veterinary Department of the Public Health Section. Hence we inspect the fruit and vegetable, fish and other markets. We inspect practically anything from a tomato to an elephant. The latter is not an article of food, but you will permit my joke for the purpose of showing that our office is not a sinecure.

Let us return to the live stock inspection. I have already noted our powers and duties. I have shown that actual seizure is now rare. But the veterinary inspector does much more work than this. He sees cases of animals with affections which will definitely render some parts unfit for food and cases which may prove totally unfit on slaughter. Examples of the former are animals affected with actinomycosis, those having received severe injuries and those affected with a tuberculous abscess in the throat or a body lymphatic gland. These may also constitute examples of the second type of case, but a better one is the sheep in poor condition and apparently suffering from extensive fluke affection. The inspector can only deal with these cases with the co-operation of the salesmasters or owners. If the subjects be sold to butchers who slaughter within the area of his jurisdiction, he can examine them *post-mortem*. Without the assistance of the salesmasters his work would be very onerous, and even with it tact is essential. Any inspector who has been dealing with cases like these would like to be granted greater facilities in the nature of authority to act regarding them. But the inspector is somewhat of a *bête noir*, and such authority would probably be difficult to obtain.

I shall pass from the Public Health aspect of the veterinary inspector's duties to those assigned to him under the Diseases of Animals Acts. Before doing so, I must remark that, as far as I know, there are few inspectors in this country who operate in both spheres. The areas of the Local Authorities controlling the Diseases of Animals and the Sanitary Authorities supervising the Public Health aspect do not coincide, save in the County Boroughs. For this reason you have different inspectors performing these duties in most areas. Furthermore, the Bovine Tuberculosis Order is treated separate from the other contagious diseases and may involve a third inspector. This is not ideal, but suggested remedies have their objections, too.

The Diseases of Animals Act of 1894, a voluminous production, is the fundamental legal authority, together with the Orders made thereunder, by which the veterinary officer obtains his jurisdiction. It repealed seven previous Acts termed "Contagious Diseases of Animals Acts," save for Section 34 of the Act of 1878 and Section 9 of the Act of 1886. It is interesting to note that it is under these two Sections that our "Dairies, Cowsheds and Milk Shops (Ireland) Order of 1908" is made.

This principal Act deals with notification, detention, isolation, slaughter, disinfection and compensation, etc., in the case of the notifiable diseases; it specifies the purpose for which orders can be made, the conditions for importation and quarantine and the powers of veterinary inspectors and others; it defines offences, penalties and legal proceedings, and administration by local and central authorities. There are six other Diseases of Animals Acts

down to 1914, only some of which actually refer to disease. The 1903 Act treats of sheep scab. The 1909 Act is very short and entirely devoted to giving the sanction of law, for the payment of a fee not exceeding two shillings and sixpence, to veterinary surgeons for the notification of disease in pursuance of an Order requiring such a notification. I wonder, do veterinary surgeons ever demand or receive this large fee? There was no further Act until 1922, hence we note that our Orders here are specified as made under the Diseases of Animals Acts 1894 to 1914.

There are at present in Great Britain twelve notifiable diseases. They are anthrax, foot-and-mouth disease, rabies, rinderpest, or cattle plague, which affect more than one species; contagious bovine pleuro-pneumonia and bovine tuberculosis in certain forms; sheep scab and sheep pox; swine fever; glanders, mange and epizootic lymphangitis affecting equines. There are well over one hundred Orders made under the Acts, some, of course, amending or revoking others—quite an interesting study for anyone with sufficient time and patience, but a very exasperating ordeal for the D.V.S.M. student.

Here we have the honour of having one more notifiable disease, namely, parasitic mange in cattle. However, we are more fortunate in the number of Orders. In substance they cover the same problems so far as they apply. Contagious abortion in cattle is not a scheduled disease, which description I take as synonymous with a notifiable disease, but by the "Epizootic Abortion Order of 1925" it is made the subject of administrative action which, however, is of little avail, I fear. It is practically a copy of the Epizootic Abortion Order of 1922 in Great Britain.

I quote the following from the Report of proceedings under the Diseases of Animals Acts for 1926, which is the most recent official publication. "With the exception of anthrax, scheduled disease amongst cattle was confined to tuberculosis. Sheep and swine diseases were confined in each case to a single malady, *viz.*, sheep scab and swine fever. The only equine disease that required to be dealt with was parasitic mange." It is gratifying to me personally, in writing this paper, as well as it must be to us all who take pride in the health of our live stock, to find that the list has been reduced to five in actual occurrence. Since then we had the outbreak of foot-and-mouth disease in Wexford, making the number six for a period.

Necessarily, the diseases which fortunately do not exist in our stock cannot form part of my paper, save to remark that one who is an inspector has always to keep them and their symptoms, etc., in mind. Rinderpest, pleuro-pneumonia, sheep pox and epizootic lymphangitis are definitely extinct, and there is but little danger of their re-introduction now. The last recorded outbreak of glanders was in 1920. Let us hope this is also extinct. It is, however, a disease which causes one still to think of the possibility of its presence on seeing certain cases of lymphangitis and even compels one to go to the extent of applying the mallein test. Rabies here is extinct since 1902, but the inspector rather frequently has to deal with reports of suspected cases. There is always some danger of its introduction. It recurred in the South of England in 1918 owing to evasion of the quarantine restrictions. The outbreak was quickly stamped out.

Now we come to the diseases still existing. Let us take anthrax first. Two outbreaks, involving only four animals, are recorded in the official Report of 1926. In 1925 there were also two outbreaks with fourteen animals affected. These returns indicate that the disease is of minor importance to the live stock owner. But we must remember that it is of vital importance from the Public Health point of view. Fatalities from anthrax through wound infections of butchers and others handling different animal products, especially skins and wool, are rather numerous. The Irish Order relative to this disease is dated as far back as 1900, a proof in itself that it is regarded as of minor importance. As I read it (I may be wrong) there is a big difference between the Order in force here and that in England. In the latter country the local inspector can only declare a case as not anthrax. Here he has the power of dealing with the case positively or negatively. I cannot refrain from asking the part-time inspectors of my audience whether their Local Authorities provide them with a microscope and other concomitants essential for their work. Save for foot-and-mouth disease and swine fever, a microscope is an absolute necessity to the veterinary inspector. One is not likely to meet cases of anthrax in fairs and markets, but, it being possible, I must devote a few further remarks to it. Cases of collapse of cattle, sheep and pigs occur, the cause being often not obvious. Anthrax in these cases must always be considered as a possibility. You know that in the ox and sheep the disease is a septicæmia, swiftly fatal and easily diagnosed by microscopic examination of a blood smear. In the horse and pig septicæmia may not occur; then throat swellings are the principal symptoms, the disease running a longer course, and the subject practically dying from asphyxia. One may ask, "Is anthrax more prevalent than our returns go to prove?" We import a large quantity of concentrated feeding stuffs, and these are usually placed prominently in the list of sources of infection, the organisms in our cool climate being transmitted in their latent spore form. I will say that probably there are cases that die of anthrax and are buried or sent to knackers' yards without this affection ever being suspected. But against that statement I will put the following proof of the paucity of anthrax in our country. As a routine practice the blood of all dead and most moribund animals, as well as dressed carcases and quarters of beef sent into the Dublin Corporation abattoir, is examined for anthrax. Out of hundreds of such examinations over a number of years there has been no case of anthrax. I wish to explain that there is only a very restricted dead meat trade passing through the abattoir. I think it right to assume that anthrax is a rare affection, but its possible occurrence should never be neglected by the veterinary inspector. One case overlooked may be disastrous in its consequences.

Foot-and-mouth disease I have never seen, and I must add that I hope I never will, in our country at any rate. If ever I visit the Continent I shall ask some Cook or Hewett to provide specially for me in this respect. These tourist people are said to be able to do anything for you. However, market inspection during the Wexford outbreak was a responsible task and afforded us in Dublin some exciting experiences. One cannot expect a typical case involving a number of animals in market. One day we found two animals side by side salivating profusely. On examination of their mouths, each had small lesions, not typical of foot-and-mouth disease, but not diagnostic of

actinomycosis either. Co-operation of the salesmaster and subsequently of the owner, when interviewed, facilitated the slaughter of these two beasts inside half an hour. They were cases of actinomycosis. Another case worth mentioning here is that of a beast noticed salivating profusely, and even making sucking noises, possibly like the real smacking movements described. Examination of the mouth revealed a small rough pebble interposed between the lower lip and the incisor teeth.

From where did the Wexford outbreak come? I have not heard of any theory with even one clue to support it. The veterinary practitioner, as well as the inspector, must always be alert to such recurrences. Providence seems in our favour in keeping us free from this most dreaded and still most mystic of the contagious diseases of our live stock.

Bovine Tuberculosis.

Bovine tuberculosis and the Bovine Tuberculosis Order have been much discussed at our meetings. The importance of the disease is my excuse for dilating somewhat on it again to-night. The Bovine Tuberculosis Order of 1926 is practically our only weapon against it. Though we may criticise the weapon, still, a great amount of very beneficial work is done under it. The effects, however, would be more far-reaching if inspection were uniformly provided throughout the country. The veterinary inspector in Dublin does more work under this than under any other Order. It applies to his market inspection, his dairy yard inspection, and the immense number of animals stopped at the port and returned to him for examination. I will endeavour to be as brief as possible in giving you points of interest in connection with the work of inspection. My fear is that I may worry the general practitioners. I will necessarily leave much material untouched which I hope will be raised in debate. A lengthy and very instructive paper on "The Administration of the Tuberculosis Order of 1925 from the Public Health Point of View," presented by Mr. Hugh Begg, F.R.C.V.S., is published in the *Veterinary Record* of January 7th, 1928. The 1925 Order in Great Britain and our Order dated 1926, are identical in most respects, even in what I claim to be defects.

There are four headings which bring an animal within the scope of the Order: (1) tuberculosis of the udder, indurated udder or other chronic disease of the udder in a cow; (2) tuberculous emaciation in any bovine; (3) chronic cough and the presence of any definite clinical signs of tuberculosis in any bovine; (4) a cow giving tuberculous milk.

Any person having in his possession or in his charge an animal to which either of the first three applies must report it (Art. 2). I may remark that if owners reported all cases of indurated udder, inspectors would have a busy time. These are the three types for which inspection of fairs and markets is, or should be, carried out. The fourth heading obviously is not a case for reporting by the owner, if numbers one, two or three do not apply. Indeed, I consider that if the case of a cow secreting tubercle bacilli in the milk without the udder being affected does occur at all it is certainly very rare. Such a problematical animal, with tubercle bacilli coursing through its blood, should become a corpse in a very short period. If no clinical case of udder tuberculosis is found in a herd after a control sample from such herd has proved positive on biological test, the theory that some cow has secreted tubercle bacilli intermittently is the last I would consider. I would give preference to the following possibilities—first, that the sample was contaminated with bacilli from tuberculous cows, which bacilli were not secreted with the milk; second (and I will describe a case seen *post-mortem* in support of this theory) that the lesions in the udder are not detectable on clinical examination; and third, that the guilty animal had either died or been removed from the herd during the month or six weeks' interval.

In a market the inspector sees very many cows affected with indurated udder, most of which he can promptly satisfy himself are not tuberculous; at least, the chances are one hundred to one against. The only danger of mistake is a mixed infection. A thickened teat duct does not appear in a "pure" tuberculous udder. Pus does not come from the teat of a "pure" tuberculous udder. These are statements which I expect some of you will challenge. I remember only one case where a tuberculous secretion was somewhat purulent and we did not prove a mixed infection.

Within the past fortnight I submitted a tuberculous udder with a thickened teat duct to Professor Craig for examination, and he has proved it a mixed infection of tubercle and Preisz-Nocard bacilli. Now, are mixed infections numerous? I contend they are rare. Therefore, the inspector, in examining for tuberculous udders in dry cows, looks for the indurated painless quarter without thickened teat duct and from which the secretion is thin and serous. In the milch cow, if the quarter affected is not very advanced in disease, there is no change in the appearance of the milk,, and the duct is not thickened. Indurations, due to staphylococcic infection, in milch cows are often very like those due to tuberculosis. I have seen only one case of actinomycosis of the udder, and that was diagnosed *post-mortem*. I will refer to a few interesting cases of tuberculous udders.

(1) A good milch cow, stopped at the Dublin Port for indurated quarter (right hind). On microscopic examination of two samples of milk from this cow, tubercle bacilli were revealed. The cow was valued (£21) and slaughtered. The only lesions of tuberculosis in the carcase were in that quarter. The supramammary lymphatic glands were not affected. Every gland and organ in the body was examined minutely and no lesion revealed. The udder was subsequently confirmed as tuberculous by three different authorities.

(2) A similar case to the above in a dairy yard cow, and similarly confirmed. These are two cases of primary infection confined to the udder, proved as far as is practicable.

(3) A freshly-calved cow, first calf, with distinct induration of one quarter due to tuberculosis. This must have been evident as a heifer. Here I point out a defect in the Order as far as some of its clauses apply—a cow is defined as a heifer that has calved.

(4) A cow in a dairy yard where the infection apparently began (as far as the udder was concerned, at any rate) in the tissue above an accessory teat and spread as a flat stratum over the hind quarter, which then became involved.

The following two cases were only seen in the course of meat inspection:—

(1) A prime heifer with left fore and hind quarters of the udder affected with old tuberculous lesions. Both supramammary glands were affected. The only other lesions were on the pleura, in the lungs and the attached glands, and these were much younger than the udder affection.

(2) A carcase of a cow with extensive tuberculosis; lesions being present along the surface of the mammary gland between it and the abdominal wall. There was certainly no induration of the mammary tissue. This, I am sure, was a case which secreted tubercle bacilli from the udder and which would defy detection clinically.

One must remember that any quarter, fore or hind, or any number of quarters, may be tuberculous and also that one quarter may have an ordinary mastitis and another a tuberculous affection.

Of the second heading I shall only say that the term "tuberculous emaciation" must be interpreted with some elasticity. It is not easy to say *ante-mortem* if the emaciation is definitely due to tuberculosis and that only. Most of such cases could be classified under the third heading, namely, definite clinical symptoms and chronic cough. Indeed, I consider that, even under this heading, the chronic cough is the most definite clinical symptom you get. I wish to emphasise, for practitioners as well as inspectors, that a cow which is coughing and has sputum on the wall in front of her is very likely to be tuberculous. I will say that 75 per cent. of such sputa are tuberculous. A sample taken on a match stick and examined microscopically gives you an immediate diagnosis. When present, the tubercle bacilli are generally numerous. I must remark here that the Committee on Milk Supply which reported last year recommended the widening of the Tuberculosis Order to include "any cow showing clinical signs of tuberculosis and excreting tubercle bacilli." Expenses and the interests of owners have to be considered, but personally I would like to see this recommendation read "any bovine animal excreting tubercle bacilli."

I cannot go into it in detail here, but I consider the paragraph dealing with compensation and the classification of advanced and not advanced disease in our present Order needs immediate amendment. As matters stand, a carcase returned as advanced under the Order may be passed by the meat inspector. Furthermore, a clause has been taken from the Meat Regulations, mutilated, and inserted into the Tuberculosis Order.

Advanced Tuberculosis.

1

Paragraph 5 of Public Health (Meat) Regulations (Scotland) 1924.

Where, in addition to the presence of tuberculous lesions in the respiratory and digestive tracts, there are also lesions present in the substance of any two of the following: spleen, kidney, udder (or uterus or ovary), testicle, brain and spinal cord or their membranes.

2

Clause (d) Par. 9 of Tuberculosis Order 1925 *(Great Britain).*

Where, in addition to the presence of "tubercular" lesions in the respiratory and digestive tracts, there are also lesions present in the substance or membranes of any two of the following: spleen, kidney, uterus, ovary, testicle, brain, and spinal cord.

3

Clause (d) Par. 9 of Bovine Tuberculosis Order 1926 *(Ireland).*

When, in addition to the presence of "tuberculous" lesions in the respiratory and digestive tracts, there are also lesions present in the substance or membranes of any two of the following: spleen, kidney, uterus ovary, testicle, brain, and spinal cord.

The same standard should apply to both the Order and Meat Inspection. If at all possible, all animals under the Order should be slaughtered in a proper slaughterhouse. Inspectors in the country labour under great difficulties in this respect. It emphasises the necessity of public abattoirs.

Sheep Scab.

Scab is our only scheduled disease remaining in sheep. It should be possible completely to eradicate it. Its detection in fairs and markets is not easy: one has not the opportunity of examining the sheep at rest for any length of time and manual examination of each sheep is impossible. Dogs barking, and men shouting, the constant movement and noises, literally prevent the sheep scratching themselves. Sheep may even be intentionally kept disturbed for the purpose of evading detection. The itching or nibbling of the affected animal and the evidence of a broken fleece are what the inspector has to be alert to notice. At this time of year the long-tail lamb should get particular attention, for the tail seems to be the predilection site for scab in lambs. The presence of maggots and the sheep ked will also cause sheep to scratch. Examination will always quickly reveal the cause. There are five conditions which may be confused with sheep scab: (a) old lesions due to maggots and strong dressings applied to them; (b) old cured scab lesions; (c) sheep lice; (d) scaly condition due to the use of too strong dips in the ordinary dipping; (e) itchiness of the skin for indefinite reasons. This last would include what is called rain scab in wet seasons and a condition in long thick-woolled sheep where there is an excess of yolk at the base of the wool fibres. In all these conditions pruritus is often marked. Hence diagnosis can only be definite by identification of the sheep scab parasite, *Psoroptes ovis*, under the low power of a microscope. I have seen only two cases of lice in sheep and certainly, until the skin is closely examined, one would feel certain that the condition was scab. I have heard frequent complaints by salesmasters and sheep traders in Dublin that the fairs throughout the country are not properly inspected. Efficient inspection at the source would save them much trouble and many prosecutions when sheep with scab are detected in the Dublin market. Obviously, without such inspection of both the sheep and the dipping certificates or declarations at the fairs, the eradication of sheep scab is practically impossible. The official report states that there were 143 outbreaks in the Saorstat in 1926 and 151 in 1925. It further adds that it would be unsafe to assume that the statistics represent the extent of the actual prevalence of the disease.

Our Council has appointed a Committee to investigate the present situation in regard to this disease. The best thing I can do is to submit to you the headings under which this Committee proposes to proceed. They may elicit from you useful suggestions.

1. Life history of the parasite.
2. Action of dips and the number of approved dips.
3. Arrangements for enforcement of dipping :—
   (a) rounding up ; (b) preparation of dips ; (c) methods of dipping ; (d) inspection of dipping ; (e) recognition of dipped sheep ; (f) certificates and declarations.
4. Orders in operation against sheep scab.
5. Detection and notification of the disease :—
   (a) reports by owners and veterinary surgeons ; (b) detection at markets and fairs ; (c) detection at ports ; (d) offences.
6. Release of restrictions in outbreaks.
7. Records of outbreaks over a number of years :—
   (a) relative frequency in different counties ; (b) difference in frequency in different periods of the year.
8. Cost of administration at present.
9. Recommendations.

I cannot say much in connection with fair or market inspection in connection with swine fever, beyond the fact that anything simulating sickness, especially in store pigs, should be carefully investigated. The Local Authorities are only auxiliaries in the enforcement of the Swine Fever Order, as the disease is principally controlled by the Central Authority, namely, the Department of Agriculture. Dublin and district, which has a special Swine Fever Order of its own, is the principal location of this disease. Its serious spread in 1928 necessitated the enforcing of still stricter regulations. Swine fever is an unsatisfactory disease with which to cope, as no definite diagnosis can be made until one or more fatalities have occurred.

Mange, amongst the scheduled diseases, is confined to sarcoptic and psorpotic affections of equines and bovines. Diagnosis in either species can only be definitely made by the demonstration of the specific parasite. Cases of chorioptic, or so-called symbiotic, mange, even in the equine can become extensive over the body. The disease became notifiable in cattle in 1927 by an Order applying the equine Parasitic Mange (Ireland) Order of 1919 to cattle also. It was a convenient way of issuing the Order, but I believe that in cattle chorioptic mange is the most prevalent, and sets up lesions probably as irritating as the others. I have not yet seen psoroptic mange in either equine or bovine. Equine mange is certainly disappearing in Dublin, possibly due to the exit of the cab horse.

I have now only epizootic abortion to which to refer. I have already indicated that it is not a notifiable disease, but still the Order of 1925 brings it within the scope of my paper. Paragraph two stipulates that "it shall not be lawful for any person to expose or cause to be exposed in any market, fair ground, or saleyard, a cow or a heifer which to his knowledge, or according to information furnished to him, has calved prematurely within two months immediately preceding such exposure." It is quite evident that an inspector can do nothing to enforce this regulation.

Before concluding, gentlemen, I request your further patience for just a few general remarks. The present administrative action against sheep scab must cost the State an immense amount of money annually, and the effect is not what one would desire. The Orders relative to the disease itself and general sheep dipping may require alteration, but certainly I think the administration demands amendment. If we once get rid of this disease, re-introduction would be practically impossible in our country, where there is no inward traffic in sheep. A big push, involving greater expenditure for a few years, would be amply compensated for if eradication were achieved. It would also clear the field for greater concentration on the bigger problem of bovine tuberculosis. In connection with the latter, one cannot fail to be struck by the futility of detecting and slaughtering a dry cow with a tuberculous udder when it has reached the Dublin market or port. Practically all the harm she is capable of doing to the community and to her own species has already been done.

I confidently look forward to good results being achieved on the recommendations of the Committee now investigating sheep scab.

Discussion.

Mr. P. J. Howard, in opening the discussion, congratulated Mr. O'Donovan on the subject of his paper, saying it was out of the rut of the usual papers and that the Association previously had not had one dealing with the duties of veterinary inspectors. Mr. O'Donovan's paper would go a long way in helping veterinary inspectors to recognise future cases of scheduled diseases. Mr. O'Donovan referred to the work of veterinary inspectors in the country. "I think," said Mr. Howard, "that statistics go to prove that the work of veterinary inspectors in the country has been very successful, as shown by the very large numbers of animals passing through the port and market, and the small percentage stopped, and this is the best evidence that the men in the country do their duty." (Applause.)

He was glad of the reference to the Tuberculosis Orders, and hoped that when our own Government had settled their political matters they would find time to scrap the existing Orders and draw up new Acts and regulations, in which they should be assisted by members of the veterinary and legal professions, and avoid the mistakes made when the Orders are drawn up by laymen without knowledge of the specific requirements.

"With reference to sheep scab," proceeded Mr. Howard, "I think this is confined to a few districts in Ireland and those few districts are areas in which veterinary inspection is not possible. I refer particularly to Galway and that part of the country. I cannot agree with Mr. O'Donovan that it is hard to recognise sheep scab ; I could stroll among sheep at a fair or market and pick out the sheep affected with scab without trouble. I again thank Mr. O'Donovan for his excellent paper."

Mr. Mulcahy : I congratulate Mr. O'Donovan on his most interesting paper. I do not agree with Mr. Howard that it is not hard to pick out sheep with scab. The easiest way to examine sheep is in a field. If examined in a small space one must handle every animal and even then one may miss an affected case. I have a big district for sheep, and I think that the big sheep districts and mountains are to be most blamed for sheep scab. I inspect between 10 and 11 thousand sheep every year, and most of the owners, for their own benefit, have built their own tanks, good-sized and made in concrete, so that the animal swims from one end to the other and gets thoroughly dipped.

I think the periods of dipping are wrong from the mountain sheep point of view. I agree that the Tuberculo-

sis Orders are worded very peculiarly, and there are a great deal too many forms to be filled up. The number should be reduced to three or four. Repetition of details imposes a lot of work on the veterinary inspector in the filling up of the forms. In my district the butcher and knacker are not allowed to obtain a carcase condemned for tuberculosis. A condemned animal must be buried, hide and all, at the expense of the owner, and not sold to a knacker for manure, etc. This is a great loss, as the hide would be worth something, and also other parts, such as bones.

Mr. J. M. MURPHY (Assistant Veterinary Officer, Dublin Corporation): I wish to thank Mr. O'Donovan for his paper and for the very able manner in which he has dealt with this subject. I know Mr. O'Donovan very well and have often been with him on market inspection. We have often had very interesting and sometimes very exciting experiences. Mr. O'Donovan always brings with him a sterilised bottle for taking a sample of milk or secretion from a cow suspected of tuberculosis of the udder, and also a match box, which is very useful for carrying away sputum, obtained on a match stick, from cows suspected of coughing up tuberculous sputum. He has a happy knack of being able to obtain sputum from many of these animals and I often call on him for assistance in this matter.

With regard to mange in cattle, this disease may be more common than is suspected, and last winter I had to deal with a bad outbreak of sarcoptic mange in which forty cows in a herd were badly affected.

With regard to "screw" animals in markets, the trouble is that often they do not come under the Tuberculosis Order, and neither can you seize them under the Public Health Act as being totally unfit for food. The only thing to do is to find out where they are going and trace them up, if slaughtered in your area. Very often we find that they are removed outside our area, but nevertheless, we see a good many *post-mortems* on these animals. One can make a provisional diagnosis before slaughter and it is very interesting to see how far right or wrong one's diagnosis is.

I may say that I have seen slaughtered many animals in poor condition with chronic diarrhœa and have not yet seen a case of Johne's disease. This is very good news, as apparently Johne's disease is very prevalent in parts of England.

I have also seen a good many "chronic tympany" cases slaughtered, and we are told that many of these are due to enlarged tuberculous mediastinal glands, but I may say that I have yet to see a case of chronic tympany due to this cause.

Mr. O'Donovan has told you "pus does not come from a 'pure' tuberculous udder." This statement may be somewhat misleading to some of you, as in the case of a dry cow which has not been handled for weeks one may sometimes get a little pus first in drawing the teat, but later the secretion is serous and watery.

Sometimes tuberculous udders are very easy to diagnose clinically, but occasionally one finds it hard to say which cow or cows, in a given lot of five, has the tuberculous udder. This point arises from our dairy yard inspection, where we would mix the milk of five cows with indurated quarters and it would be positive on animal inoculation. Some staphylococcic udders are very similar clinically to tuberculous ones.

I dissent strongly from Mr. Howard's statement that he could be satisfied that sheep were not suffering from scab by merely walking up and down by them and not handling them. It is often difficult to say whether the condition is scab or not, even after careful handling and examination of the sheep.

Mr. MCCORRY expressed his thanks and appreciation to the essayist and continued: It is difficult to deal with sheep scab in the market. Sheep in crates are hard to get at in the ear, and it is easy for a case to escape detection. A great trouble in sheep scab is the carrier, and the worst season is after Christmas. The sheep should be clipped and dipped afterwards in the presence of an inspector. Clipping is a check on the parasite. In my area, several years back, sheep were badly affected, and clipping in June and November did a lot to check scab. Carriers are difficult to diagnose. Dipping is better if later in the year, for some districts especially. Summer dip is not so valuable as the winter dip.

Concerning the Tuberculosis Order, I am glad the point was raised as to the number of forms (13). Why should there be so many? One form asks the owner if he consents. Why should he be asked? Is not this only inciting him to fight? An inspector would require a clerk or secretary to deal with all the forms.

One goes to a farm to a suspected case and confirms an animal as being tuberculous. This is checked in the Veterinary Research Laboratory, Dublin. In England the veterinary officer can slaughter on his own diagnosis; we cannot, but must send to Dublin to have it checked. To make the Orders valuable, the remaining members of the herd should be tested in some way. On my recommendation some herds have been tested and I have generally found more reactors, especially in animals in sheds.

Mr. O'DEA: I would like to thank Mr. O'Donovan for his interesting paper, but wish to take exception to the remark of Mr. Howard in saying that nearly all the sheep scab comes from Galway. In our work at the port none of the cases detected has come from Galway. I hope the impression will not go round that Galway is to blame for sheep scab.

Mr. P. F. DOLAN (Chief Veterinary Officer, Dublin Corporation): I desire to thank Mr. O'Donovan for this paper and am glad that he took the trouble to deal with this subject. It involved considerable trouble in following the legal points. The importance to the country of veterinary inspectors' work is very great, not only to cattle breeders, but to the members of the veterinary profession themselves. One wonders how many fairs are not inspected. The Government do not pay for inspection, and it is often put up to me, at the Dublin market, that it is not fair to penalise salesmen, when sheep scab is detected. In one case of which I know, five sheep were brought from a distant part of the market, were bought by a dealer and mixed with 500 other sheep, and sheep scab was then detected. The dealer must submit to the consequences and suffers loss. Inspection of fairs concerns the dealers closely.

Concerning swine fever, this is most difficult to deal with in the market. I do not know how this could be dealt with except by regulations governing the movement of swine.

Regarding the Tuberculosis Order, I cannot understand Mr. Mulcahy's statement that the owner is put to the trouble and expense of burying the carcase. The local authority is the owner of the animal and must bear the expense of disposal of the carcase. Animals outside the Order often give trouble. We should press for regulations regarding these, and dealing with them. In these cases, though the animal is diseased, the veterinary officer must let the animal go through and it goes to slaughter and on to a shop, unless the owner agrees to destroy it. It may appear very funny to say that the veterinary officer should examine everything from a "tomato to an elephant"; it may seem odd to an outsider that the veterinary officer should be asked to give an opinion on an apple or tomato, but why should he not do so? He has learnt botany during his course, and should know more about it than the sanitary authority. It would be impossible for any local authority to appoint several inspectors, one for each item or class of goods. All must be under the one inspector, and who could be better than the veterinary surgeon? To go back to the Tuberculosis Order—it is said that it is easy in markets to detect tuberculosis. In the Dublin market those days have gone. It used to be easy, but now it is very difficult. It is years since a good case appeared. Ten years ago there were constantly cases of emaciation; it is not so now.

Mr. O'Donovan refers to mange and says there is very little now—probably because of the disappearance of the cab horse. That is not our experience. The cabby usually looked after his horse. The biggest outbreaks in

the city were in the Army quarters. Sarcoptic mange spread from them. It was proved to them that the Army horses were to blame. Other cases happened in large firms where horses were not properly supervised.

Mr. TAYLOR: I would like to ask two questions. In tuberculosis, what clinical signs are to accompany chronic cough? Chronic cough is the only class for which you are not allowed to use the tuberculin test. Cows with indurated udders are shown at markets. Are we expected to seize all cows with defective udders?

One member mentioned that it was a good thing to send lesions to the Department's Laboratory. I do not think so. We send the lesions, but at the *post-mortem* examination we must give the owner a definite opinion, and compensation depends upon our report. The Department's examination is only a check as to whether we carry out our work properly.

Mr. KENNY: I am sorry I was too late to hear all of Mr. O'Donovan's paper but, regarding sheep scab, I agree that it is hard to diagnose under certain circumstances. If sheep have been over-dipped it is hard to say whether they have sheep scab or not. I would be glad if the author could suggest a less difficult way of examining sheep on wet days, when steam is rising from the sheep and their fleece is matted. Mr. Murphy questioned whether it is better to examine in herds or in a pen. I agree with both Mr. Howard and Mr. Murphy that examination in both herd and pen is advisable if it can be carried out—we portal inspectors examine sheep in their pens and are satisfied. The sheep go across the Channel and are kept under detention there for a longer period. If found to be scratching they are kept over and inspected. It would be best to adopt both systems, but we have no time for this. A point in regard to tuberculosis of the udder: in the examination of milk mixed with milk from one tuberculous cow, it is very hard to pick out the one at fault. In some cases you cause an animal to be slaughtered for tuberculosis other than tuberculosis of the udder, and then on *post-mortem* you find tuberculosis of the udder, and tuberculosis having been found in the milk.

Mr. MAGEE: I must congratulate Mr. O'Donovan on his brilliant paper. He is a man thoroughly conversant with his job. Mr. Dolan mentioned that they now seldom get typical cases of tuberculosis in the market with chronic cough or emaciation, as they used to do, and it is I think due to Mr. Dolan's modesty that the explanation has not been suggested by him. We think it is really due to him and his staff. (Hear, hear.) The Dublin Corporation was never better served than by Mr. Dolan and his assistants, and it is to their good work that the reduction should be ascribed. I sympathise with the speaker in this difficulty of diagnosing the chronic cough and emaciation as tuberculous. I condemned such a case and, on *post-mortem*, found it to be a case of traumatic pericarditis. Another point mentioned by Mr. Murphy was chronic tympany. During twenty-five years I have had dozens of cases of chronic tympany which I diagnosed as enlarged mediastinal glands and every one proved right.

Col. H. T. RYAN: I agree with Mr. Magee and think it advisable to make the *post-mortem* examination oneself. As regards the suggestion that the spread of mange is due to Army horses, I do not think this is true or likely, but, if true, it certainly is not the fault of the Veterinary Officer. Army orders always impress on them that no case of mange must escape from their quarters, and if the Officer did let one go he has no chance of doing so a second time.

Mr. CUSSEN: I cannot agree with Mr. Howard as to the ease of detection of scab. The repeated dipping of sheep goes a long way to prevent scab. The dipping should be supervised by a veterinary officer and not left to the farmers, as in Cork. On one occasion I arrived to find that some had been done in a one-gallon bucket. The veterinary officer should supervise the dipping and be paid for it.

Mr. T. O'LEARY: Sheep are hard to examine at fairs; in some of which they are scattered over about half a mile, and some are in cribs of five or six. They come from and go away in all directions. *Re* the Tuberculosis Order, the question has been asked—Do the Department provide microscopes to inspectors? No, not yet. I think they should be provided with humane destroyers.

Mr. HEALY: I would like to ask Mr. O'Donovan if he has had any experience of the warble fly in tuberculous animals.

Mr. DODD (President) thanked Mr. O'Donovan for his paper, and proceeded: I agree with Mr. Howard as regards the detection of sheep scab. I have observed that animals with this complaint are never at ease, but keep shifting and scratching.

As regards mange in cattle, this was brought in from Scotland. There were some 50 bulls brought in last year and all of them that came to Sligo were affected with it. In one case of tuberculosis, in which the animal made a snoring sound, I found on *post-mortem* examination that this was caused only by a gland in the back of the throat. In a dairy herd, the wife of the owner wrote to have the cattle tested. Fourteen cows were tested, 12 reacted; no tubercle bacilli, however, were found in the milk. In another case, 19 out of 25 reacted; six gave milk in which tubercle baclili were found. I again thank Mr. O'Donovan, and would now ask him to reply.

THE REPLY.

Mr. O'DONOVAN: I have to thank you all for your complimentary remarks on the paper and for the easy way you have let me off. Some of the points raised and questions asked have been answered by subsequent speakers, and this lightens my task in replying.

Mr. Howard started by saying that it is easy to detect sheep scab. That may be so when lesions are pronounced and the sheep are in a field, but market inspection is a different problem, where the lesions are often small. In cases of prosecution, when you have to go to court, your only definite evidence must be that you have demonstrated the parasite; otherwise you stand the chance of having your case dismissed. He also favoured the amending of the Bovine Tuberculosis Order and referred to Galway as being the chief location of sheep scab. The official report does not prove this and it has been denied by Mr. O'Dea.

Mr. Mulcahy raised some interesting points in reference to sheep dipping and the dipping periods as they affect mountain sheep. Concrete tanks are admirable for dipping if they are sufficiently deep for the animal to swim in. The tendency in the small hand tanks, into which the sheep is thrown, will always be to take the animal out before the dip is properly in contact with the skin, and the head is difficult to immerse while struggling. He also raised the question of the number of forms to be filled up in connection with a tuberculosis case. It should be possible to reduce the number, and if the local authorities got the forms to copy they would realise the amount of work to be done.

Mr. Murphy's contribution was complimentary and very instructive. It supplemented the paper very considerably. I agree with his qualification of my remarks about pus coming from a tuberculous quarter in a dry cow. It is very satisfactory for us that Johne's disease is no worry in our country.

Mr. McCorry refers to carriers, in connection with sheep scab. To my mind, lambs are very often carriers and remain undetected as they may show no active lesions for a considerable time. At this time of the year most cases we detect, or which are detected at the Port, are in lambs, and in long-tail lambs usually. I would recommend, if there be no danger of tetanus (and I do not know that there is in our country), that all lambs should be docked. This would remove the predilection site, but not the cause, of course. I have sometimes even thought that the double dipping should be in the summer instead of the autumn. This is contrary to Mr. McCorry's view. Certainly I think the summer trade in lambs spreads the disease. With reference to the testing of a herd in which a clinical case of tuberculosis has been dealt with, you are of course to examine the whole herd, but applying the tuberculin test raises the question—Who is going to pay for it?

Mr. Dolan's remarks also considerably supplemented the paper. He has pointed out that there is no necessity for burying the skin with the carcase. The carcase becomes the property of the local authority. If all cases could be killed in proper abattoirs some of these carcases also would be salved. He defends the cabby and his horse; still, I think the reduction of the number of cab horses has helped the decrease in mange. Our only mange case this year in Dublin was in a cab horse detected by Mr. Dolan himself.

Mr. Taylor raised some points of which I was very glad. He asked "What are definite clinical symptoms and chronic cough?" Except in cases of enlarged carcase glands the chronic cough is the most definite clinical symptom you get. In most cases of infection of carcase glands you do not find any chronic cough. I wish again to emphasise the importance of examining the sputum in these cases. The match box referred to, one always has handy and the sample can be taken on the match stick. I am satisfied to return any cow coughing up tuberculous sputum as having a chronic cough, even though the period of examination be short, as it necessarily is in a market. He also referred to the number of cases of indurated udder seen in a market or fair. The Order happily says in connection with these that the veterinary inspector "may" etc. Therefore, he need not detain those that he is satisfied are not suspicious. Of course in all these cases one is discussing market inspection. In a dairy yard every case should be held to be suspicious until the cause is definitely proved.

Mr. Kenny asks me to suggest some means to facilitate inspection at the port. I am afraid I cannot, when the time for observation is limited. One must rely on the careful manual examination.

Mr. Magee was flattering, I fear. His case of pericarditis is just one of those like tuberculosis. I remember a somewhat similar case, where the cow was coughing up sputum, which was not tuberculous though she was affected. The pericarditis was the cause of her emaciation.

I would like to have heard more from Mr. Cussen, as he is operating in both spheres to which I referred in the paper. His suggestion of veterinary surgeons supervising dipping would be impossible, I think. Mr. O'Leary's remarks throw further light on the difficulties of the inspector at fairs. It is his local authority and not the Department that should provide him with a microscope. His suggestion about being provided with a humane killer is certainly very important. I can give Mr. Healy no information about the warble fly and tuberculous animals; in fact, I do not quite understand what he means. The Chairman's case of the snorer I consider did not come strictly within the terms of the Tuberculosis Order, unless she was coughing. I think I have now gone over most of the points raised, gentlemen, and I must again thank you for your patient hearing.

Payment of Substitutes.

The Report of Council was read, approved, and adopted.

Mr. Mulcahy said: Concerning the question of the payment of substitutes, Mr. Hinds brought the matter before the Waterford County Council, who "turned it down." It is very hard lines that the veterinary inspector should have to pay for his substitute when he is incapacitated. Some time ago I had an illness and a substitute was appointed, and the county council paid him. Now he must be sanctioned by the Department. We should get the Local Authority to provide and pay for the substitute in case of absence from accident or illness. The question of holidays is another matter. We should try and get this.

Mr. O'Donovan: The circular is from the Department to the Local Authorities. The Association must take it up with the Department.

Mr. Mulcahy: This matter could be added to the agenda for the deputation on the grievances of veterinary officers.

Mr. Dolan: No. It is too important to go as a side line. It should go in direct and be kept altogether separate from the matter of the veterinary officers of the Department.

Mr. O'Donovan: I agree with that, and the question of the holidays should be also raised. Whoever does duty must be sanctioned by the Local Authority, and the Local Authority should be the payers, not the veterinary inspector, out of his meagre salary.

Mr. McCorry: We employ a locum in our absence and he would be able to do the local appointment work, and he should be sanctioned by the Department; otherwise the locum would have no standing.

Mr. O'Donovan proposed, Mr. Mulcahy seconded and it was agreed: "That the Association write to the Department pointing out the hardship of veterinary inspectors having to pay their substitutes and stating that the Association considers that the Department should authorise the Local Authority to pay the substitute."

Mr. McCorry: Two years ago I sent a Resolution to this Association *re* the complete abolition of road tax on motor cars for veterinary surgeons. I saw in the minutes that it was proposed and seconded that it "lie on the table." I suppose it still lies on the table. Could it not be brought forward again? It was said that it would not be granted as the medical profession had not secured this concession, but the position of veterinary surgeons is not comparable with that of doctors.

Mr. Dolan: I propose that it be sent forward to the Council for reconsideration that the concession be granted to part-time inspectors.

Mr. O'Donovan: You cannot penalise the private practitioner by excluding him.

Mr. McCorry: I meant it to include all veterinary practitioners. No differentiation can be made, as all do equal work.

Mr. Dolan: I will withdraw that part of my proposal—that it be confined to part-time officers,—but I think if applied to all it will have no chance of being granted.

It was eventually agreed to refer the matter to the Council for their reconsideration.

The meeting then closed.

J. J. O'Connor, *Hon. Secretary.*

MUNICIPAL REPORTS.

Annual Report of the Veterinary Department of the City of Edinburgh for the Year 1928.

By those working in Veterinary Public Health, the annual report of Mr. Arthur Gofton, Chief Veterinary Officer of the City of Edinburgh, is looked forward to as a standard of concise accurate information on all matters connected with dairy and food inspection in a large city. The report for 1928, which is in no way less instructive than its predecessors, describes the work carried out under three distinct sections:—(*a*) The Milk and Dairies (Scotland) Act, 1914; (*b*) The Bacteriological Laboratory, and (*c*) The Inspection of Meat and Other Foods.

(*a*) The Milk and Dairies (Scotland) Act, 1914, seems to be working smoothly and no administrative difficulties have been encountered. Under the terms of the above

Act, cattle on registered dairies must be inspected at least once a year, but in Edinburgh the usual practice in the city of paying monthly visits has been continued and 949 visits to registered dairies have been paid. Special provision has also been made to allow of cows on non-registered premises to be inspected from time to time, and 105 such visits are recorded. There were 3,421 cows on registered dairies and 69 on non-registered premises within the city. All newly-calved cows exposed for sale in the markets were also similarly examined; there were 3,292 in number or an average of 63 each week. Of the cows examined in the markets two were found to have tuberculosis of the udder and two had chronic coughs with definite clinical signs of tuberculosis. These were removed from the markets under Art. 12 of the Tuberculosis Order. Three of the four were returned to the place of origin, the local authority concerned being duly informed, and one was killed by the owner without any claim to compensation. Nineteen cows were also found to be suffering from diseases other than tuberculosis and were withdrawn from the sales.

Coming to the dairy cows of the city, we learn that 154 were detected suffering from diseases other than tuberculosis and were removed temporarily or permanently from the herds as occasion required and their milk withdrawn from sale if likely to be dangerous.

The diseases met with were as follows:—

Suppurating conditions of the udders and Mteats	5
etritis	3
Psoroptic mange or ringworm	34
Johne's Disease	4
Mastitis	90
Varicella	6
General disorders	12

From experience gained, Mr. Gofton suggests that the serious losses from mastitis might to some extent be lessened by vaccine treatment carried out in the early stages of the condition, and he recommends more extensive trials along these lines.

Tuberculosis was responsible for the removal of 49 cows during the year, including the four already mentioned as found in the markets. Of these, 19, detected on registered premises, were found to come within the scope of the Tuberculosis Order, of which seven had tuberculosis of the udder, six had chronic coughs and other definite clinical signs of tuberculosis, while six were emaciated animals. Microscopic examination of the milk was the means of diagnosing five of the udder cases and the biological test the other two. Of the 12 others, diagnosis was based on the examination of sputum or urine in nine, tuberculin was used to aid in the diagnosis of two and a general clinical examination alone in the remaining animal. In addition, 24 cows which did not come within the meaning of the Tuberculosis Order were proved to be affected by the examination of pathological material from them and were removed from the herds and sold for slaughter by their owners. The tuberculin test was not applied in Edinburgh under the powers given in Section 22 of the 1914 Act. The usual interesting figures are given as to the incidence of tuberculosis in cows killed in the city abatoirs. These show 1,587 or 41·84 per cent. to have been affected with the disease. Of these, 9·45 per cent. (as against 11·99 per cent. the previous year) had to be totally condemned, while in 17·08 per cent. the lesions were moderately extensive and in 72·47 per cent. only limited and more or less localised in extent.

One tubercle-free herd, licensed under the Milk (Special Designations) Order, is maintained by the Royal Victoria Hospital Tuberculosis Trust in the city. The statutory tuberculin tests (subcutaneous and ophthalmic) were applied twice and one reactor found. This was slaughtered and proved to be affected in the mediastinal lymphatic glands. The young stock, reared on a hill grazing, were tested by the double intradermal tuberculin test on two occasions—no reactors being noted in 42 and 56 animals respectively.

There are still 92 registered producers' premises and 30 non-registered in the city, the former showing a reduction of five. The exempted premises are all licensed under the Cattlesheds in Burghs (Scotland) Act, 1866.

Under Section 18 of the Milk and Dairies (Scotland) Act, 1914, 119 samples of milk consigned to the city were submitted to the biological test for tuberculosis. Only six proved to be tuberculous, which figure appears to be satisfactory and is a considerably lower percentage than is often the case in other areas. As the result of these tests, five cows outside the city boundary were found with tuberculosis of the udder and were duly slaughtered. In the sixth case, a cow with tuberculosis of the udder was removed from the herd by the authority concerned a few days before the result of the biological test became known.

One city producer was licensed to produce "Grade A" milk. The city hospitals are supplied by cows owned by the Corporation and kept on their own farm. Improvements and considerable alterations have been made on the farm buildings and a completely new herd of tubercle-free cows was purchased during the year, 76 such cows being bought in small lots from Ayr, Lanark, Dumfries and Kirkcudbright, subject to passing the tuberculin test. Two subsequent tuberculin tests were carried out with only one doubtful reactor resulting, which, however, when killed failed to reveal any naked-eye lesions of tuberculosis. The herd was also submitted to the blood tests against contagious abortion, which shows the enterprising nature of the Edinburgh authorities. Two animals only proved positive and were isolated. The milk from this herd is in all respects up to the "Certified" standard.

(*b*) THE BACTERIOLOGICAL LABORATORY. An interesting report by Mr. W. Jowett, F.R.C.V.S., D.V.H., is included. One hundred and sixty-three milks were submitted to the bacterial test for cleanliness. Of these, four out of 53 "Certified" and 18 out of 56 "Grade A" milks failed to come up to the standard, although on subsequent tests they proved to be satisfactory. Not so, however, the "Pasteurised" milks, where living coliform organisms were present in 1/10 c.c. in at least 17 out of 30 samples examined, showing that improvement in this class of milk is still required. Out of 96 individual samples taken from cows in city byres and examined microscopically for tuberculosis, only four proved to be positive. Of the 92 negative samples, 16 showed streptococci and 11 were further submitted to the biological test, three of which were found to contain tubercle bacilli, while eight were negative. One hundred and ninety-four other specimens were examined for different bacteria. The following table, showing the fluctuations in the percentage of country milks,

examined from year to year, which proved positive to tuberculosis, is of interest :—

1918	...	8·4	1924	...	14·0
1919	...	9·3	1925	...	8·8
1920	...	9·9	1926	...	11·0
1921	...	11·6	1927	...	5·73
1922	...	2·0	1928	...	5·0
1923	...	5·2			

Three investigations were carried out for food poisoning, but no proof of bacterial food poisoning could be found. Mr. Jowett, in addition to his other duties, prepared vaccines (autogenous and stock) for the treatment of cases of bovine mastitis.

(*c*) Inspection of Meat and Other Foods. A veterinary officer is detailed for duty in the markets on each market day. Special care is taken to prevent unfit animals being moved from markets by rail or by road under powers contained in the Transit of Animals Order. Should any such be found they are usually slaughtered at the owners' risk at the abattoir. The following fat stock passed through the markets :—Cattle, 44,362 ; calves, 6,022 ; sheep, 224,387 ; and swine, 21,817.

Abattoirs. An increase of 819 animals passed through the city abattoirs compared with 1927. The numbers were as follows :—Oxen, 27,185 ; bulls, 808 ; cows, 3,793 ; heifers, 944 ; calves, 4,719 ; sheep, 158,442 ; and swine, 18,840. Meat and offals to the amount of 157·72 tons were condemned, of which 56·47 per cent. of the carcases seized were tuberculous and 38·54 per cent. of the offals. Interesting figures are given showing the class of meat and the kind of organs seized and reasons for condemnation. For instance, we read that 437 cow or heifer carcases were condemned in whole or in part for tuberculosis, against 59 for non-tuberculous diseases, and that tuberculous lesions were present in only 4·16 per cent. of the oxen killed, in 21·29 per cent. of the bulls, 6·04 per cent. of the heifers, while the percentage in the cows reached 41·84. Tuberculosis was found in 6·16 per cent. of the pigs killed and 0·49 per cent. of the calves. Inspections are also carried out on fresh or frozen meat brought into the city. One farmer was fined five pounds for consigning a diseased cow carcase to one of the dead meat markets. Notification was given to the Veterinary Department by wholesale meat traders in the city of 2,253 home-killed carcases received in the city from without its boundaries. Of these, which were all inspected, 119 complete carcases and 15 parts of carcases were seized and destroyed.

Port Food Inspection. The usual supervision to determine the soundness of foodstuffs landed at the Port of Leith has been carried out as formerly. Foodstuffs were brought into Leith from the following countries :—Holland, Denmark, U.S.A., Canada, Iceland, Italy, Belgium, Germany, Poland, Russia, South America, Greece, China, Africa and Rumania. One hundred and thirty-two and a half tons of foodstuffs were found to be unfit for food at the Port of Leith, which, added to the condemnations of meat and other foodstuffs in the city, gives a total for the year of 299 tons.

The veterinary staff attend the stud of horses maintained by the Lighting and Cleasing Department, to which 725 visits were paid, and subjected 23 horses to examination before purchase. The Department also co-operates with the Farm Manager of the Corporation farms in the purchase and management of the farm stock.

City of Liverpool Veterinary Department : Chief Officer's Report for the year 1928-29.

Horses.—The stud consists of 359 animals. These are supplied to the various Departments on a commercial basis of 1s. 1d. per hour, and this is undoubtedly much cheaper than motor haulage. So well are the animals cared for that they secured four firsts, five seconds and one third at show competitions.

Training of Boys.—Boys from the Liverpool Sheltering Homes and for overseas Dominions migration are trained in horse management by the Department.

Milk Supply.

Dairy cows to the number of 3,947 are kept in the city area. The tendency is to a decrease in numbers. Fifty-four cows suspected of disease were notified by owners or the veterinary surgeons, of which nine were found to have tuberculous udders and eight to be affected with the same disease in other notifiable forms.

Eight samples of milk whch contained tubercle bacilli were notified to the veterinary officer. Investigations made revealed one case of tuberculous udder and seven cases in which the diseased animal had been removed or contamination ceased. Cows numbering 10,613 were examined for tuberculosis, of which 25, or 0·23 per cent., were found to have tuberculous udders.

Milk produced outside the City.—Detection of infected supplies rests with the medical officer and is done by testing bulk samples of the milk.

Contrasting the value of this method with routine examination of cows in the city area, the report states :—"During the last three years routine examination and notification have been responsible for the detection of over 90 per cent. of cases of tuberculous mastitis in the city, while bulk sampling revealed less than 10 per cent. An estimate of the amount of tuberculous mastitis in adult dairy stock in Great Britain is stated to be between 0·5 and 1 per cent. per annum. The numbers of cows and heifers is returned at 3,251,000. Therefore, the lowest estimate of tuberculous mastitis would be 16,255. The actual number dealt with officially under theTuberculosis Order is given as 2,239.* Those are striking figures and show apparently that there is in our milk supply, as in our meat supply, a woeful lack of proper supervision. The former is the more dangerous of the two.

Grade A (T. T.) milk is supplied to the City hospitals and infant welfare centres. The number of cows examined was 1,753. Three hundred and seventeen cows were tested with tuberculin. The milk supply of the hospital was found tuberculous on three occasions and that of the infant welfare centre twice.

Tuberculosis Order.

The numbers of animals dealt with under this Order were :—

Total number of animals examined	624
Total number of animals slaughtered	38
Total number of animals with tuberculous udders	23
Total number of animals giving tuberculous milk	—

* We would draw our readers attention to the following note, published in the *Record* of August 24th, 1929, in which it was stated that the House of Commons was recently informed that during 1928 in England and Wales 161,412 cows were examined under the Tuberculous Order of 1925, and 13,832 cows were slaughtered.

Total number of animals with tuberculous emaciation	—		
Total number of animals with chronic cough and definite signs of tuberculosis	13		
Total value of animals slaughtered ...	£372	10	0
Total compensation paid to owners ...	202	15	0
Total amount refunded by Ministry of Agriculture	152	0	3
Total amount of salvage recovered ...	77	10	2
Total credit balance to local authority	26	16	5

All stalls from which tuberculous animals were removed were disinfected.

The city was free from anthrax, glanders, parasitic mange, rabies and foot-and-mouth disease during the year.

A large amount of routine work was carried out under the various orders of the Ministry of Agriculture.

Exportation (Prior to Slaughter) of Horses for Export as Food.—

Number of horses examined	870
Number of horses condemned alive	11
Number of carcases condemned	20

Inspection of Markets.—

Number of animals examined	41,014
Consisting of Cattle	1,022
Sheep	39,964
Pigs	28

ABSTRACT.

[Rubber Heart keeps Cat Alive for Hours. GIBBS, O. S. *India Rubber World*, Vol. 80, No. 4, p. 71, July, 1929.]

Dr. O. S. Gibbs, Department of Pharmacology, Dalhousie University, Halifax, N.S., has successfully completed experiments in which cats are kept alive for hours by an electrically operated rubber heart after the natural heart has been removed. The apparatus that affects this phenomenon consists of a small rubber bellows fitted with special-type inlet and outlet valves. Two such are contained in a small brass box, and to each is attached a switchgear so arranged that both must fill and empty together. The emptying is provided for by water pressure being electrically turned on to the containing box. Filling is accomplished and controllable by allowing the water draining out of the box to exert a slight suction. Into the heart of an anæsthetised cat are placed the four tubes leading to the apparatus, an inlet for the systemic circulation and an inlet for the lung circulation, also one each for the outlets. The circulation is arrested for about five minutes. Such a preparation reacts to drugs acting on the circulatory system much as does an ordinary animal, with the important distinction that the results are not complicated by the effect direct or compensatory on the heart. The apparatus thus enables a further analysis to be made of drug actions.

The experiments, it is hoped, will tend also to throw some further light on the question of "surgical shock" and thus may eventually prove of direct value to general medicine. It should be noted that these experiments are conducted, not for the study of the heart, but of the circulation apart from the heart and that, furthermore, they are but one phase of an investigation into the same question. F. N.

NOTES AND NEWS.

The Editor will be glad to receive items of professional interest for inclusion in these columns.

Diary of Events.

Oct. 7th—Meeting of the Editorial Committee, N.V.M.A., 10 Gray's Inn Square, London, at 4-30 p.m.

,, 8th—Meeting of the Derbyshire Division, N.V.M.A., at Derby.

,, 10th—Meeting of the Central Division, N.V.M.A., 10 Red Lion Square, W.C.1, at 6-30 p.m.

,, 10th—Meeting of the Lancashire Division, N.V.M.A., Grand Hotel, Aytoun Street, Manchester, at 3 p.m.

,, 17th—Meeting of the Lincolnshire and District Division, N.V.M.A., at Lincoln.

,, 25th—Meeting of the Yorkshire Division, N.V.M.A., at Leeds.

Veterinarian as Mayor.—We congratulate Capt. W. Tempest Olver, M.R.C.V.S., on the receipt by him of a unanimous invitation from the Town Council of Tamworth to be nominated as Mayor of the Borough, on November 9th next. The *Tamworth Herald* of September 28th comments on the event as follows :—

"The Burgesses of Tamworth will be gratified to learn that Councillor William Tempest Olver has been nominated as Mayor of the Borough for the ensuing municipal year. Mr. Olver is a native of Tamworth, and one of its leading men. It is interesting to know that when in due course he occupies the Mayoral chair he will be in the position which his father, Mr. Harry Olver, filled for two years, and his grandfather, Alderman William Tempest, for three years. This will form a record for a family in the Borough which probably no other borough can excel."

Young Practitioner's Tragic Death.—We regret to record that Mr. James Lauder, M.R.C.V.S., aged 24, of Smithy Croft Road, Riddrie, Glasgow, who was doing temporary duty in Arbroath, was last week found dead in a garage at Wellbank, Arbroath, the residence of Mr. A. L. Robertson, a local veterinary surgeon, who is on holiday. There was a smell of exhaust gases in the garage.

Erratum.—Mr. J. R. Hewer, of Swindon, writes : "I find that in my report to the Royal Counties Division of the proceedings of the Royal Sanitary Institute Congress, held at Sheffield, I stated that Mr. Torrance opened the discussion upon Mr. Dolan's paper, whereas I should have given the name of Mr. Burndred as the opener. I regret the error and trust that you will insert a correction in as early an issue of the *Record* as possible."

DEATH OF COLONEL W. B. WALTERS.

It is with great regret that we have to announce the death, which occurred in London on the 21st September, 1929, of Colonel W. B. Walters, C.B., F.R.C.V.S., retired pay, late Army Veterinary Services, at the advanced age of over 90 years.

The deceased officer graduated in London on the 4th May, 1860 ; in the following year he was appointed veterinary surgeon to the Royal Artillery ; ten years later he was gazetted veterinary surgeon, 1st class, to the 6th Dragoons. In 1883, he was appointed Inspecting Veterinary Surgeon ; he was promoted Veterinary Lieutenant-Colonel in 1891 and retired in 1894, when he was awarded the C.B.

During his military career this officer held many appointments, including the following :—Instructor, Army Veterinary School ; Inspecting Veterinary Surgeon, Ireland,

Aldershot, and War Office; and District Veterinary Officer, Woolwich.

He was re-employed during the South African War, and was promoted to the rank of Colonel in 1903, reverting to the retired list in 1904.

Colonel Walters was also re-employed during the Great War from August, 1914, to December, 1915, when he again reverted to the retired list.

The deceased officer served in the following campaigns: Fenian Raid, Canada, 1866; awarded medal and clasp. South Africa, Zulu War, 1879; awarded medal, and was mentioned in despatches.

Suakim, 1885, Principal Veterinary Officer in Egypt and Sudan; awarded medal and clasp, bronze star, and was mentioned in despatches.

Colonel Walters was awarded a Distinguished Service Pension in 1905.

The late Major-General Sir Fred. Smith, in his *History of the Royal Army Veterinary Corps*, pays a warm tribute to the assistance given by him in drawing upon his memory for facts in connection with the Army Veterinary Service.

The Congress "Snaps."

We were indebted to Mr. W. Gardner, M.R.C.V.S., of Woodside, Maybole, for the excellent photographs of Culzean and Glenapp Castles, reproduced in our Congress Number last week, and Mr. Gardner informs us that if any member should be desirous of obtaining a set of these and other prints of snapshots taken on Congress excursions he will be happy to supply them on application.

We regret that an unfortunate series of omissions occurred in our Congress Number in respect to a member who has been one of the most consistent and valued supporters of the Congresses of the Association. The name of Major F. L. Gooch, of Stamford, failed to find a place in the Attendance List, whereas he officiated throughout the proceedings as one of the Recording Secretaries, while he was responsible for a table of specimens at the exhibition held on Operations Day. In connection with our description of this exhibition of morbid specimens, mention should also have been made of the fact that about forty of the specimens shown were supplied by the Pathology Department of the Royal (Dick) Veterinary College, Edinburgh.

CORRESPONDENCE.

Letters to the Editor should reach the Office not later than by the first post on Tuesday morning for insertion in following Saturday's issue.

All correspondence must bear the name and address of the contributor for publication.

The Editor does not hold himself responsible for the opinions of his correspondents

The Psychic Factor in Canine Hysteria.

To the Editor of The Veterinary Record.

Sir,—In your issue of August 10th, I remarked with great interest that an original point of view had been expressed on the nature of the affection, occurring in dogs, known as canine hysteria.

The writer of the article entitled "Hysteria and Epileptoid Seizures in Dogs" assumes, from the inconsistency of occurrence, the variety of predisposing causes, and the lack of any *post-mortem* evidence of disease that the affection is not organic in origin. He regards it rather as a psychic or functional disturbance.

Having become interested in the subject of Psychotherapy about two years ago and at the same time encountering an unusual number of dogs with hysteria, I was attracted by what seemed to me a close similarity between the canine affection and that of the human being which has been termed a "neurosis." This condition had completely baffled the students of human medicine until Freud offered the explanation now generally accepted.

Neurosis is a disorder which is essentially associated with civilisation. Our evolutionary development has taken so many millions of years that this last period of civilisation must be regarded as comparatively brief and something quite new. Behaviour in the long pre-civilisation period was all dependant upon reflexes and instinct, and the animal body, or psycho-physical organism, is built for those requirements. This new regime calls for controlled behaviour and demands taboos and inhibitions of the reflex and instinctive responses, and for this the psycho-physical organism in its present state of development is ill-equipped. Consequently, those members of our community who have less power of adaptation to the new regime than others, find difficulty in the matter of self-control. In extreme cases they become unbalanced or dissociated and although perfectly sound in body are unable to live a normal life because they cannot make their actions conform to the requirements of civilisation.

One of the commonest manifestations of a neurosis is the output of large amounts of energy through the emotions of fear and anger, with which the individual is repeatedly possessed either for some unreasonable or for some imagined cause, and all those functions associated with these emotions are called into play to prepare the body for flight or fight, as in pre-civilised times when the proper working of the instincts evoked by these emotions meant so much to the welfare of the individual and of the race. In these days, however, we know that fear with no call for flight and anger with no call for fight are hindrances to our action.

The various species of mammalian bodies are built on much the same plan: differences between the physiological reactions of man and dog are really very small indeed and we might reasonably think that the difference in mentality is only a matter of degree. The dog, in view of its greater development of intelligence as compared with most other lower animals, and also of its close proximity to the human race where it experiences so great a deviation from natural conditions in its environment, is the animal we might not unreasonably expect to react to this change in a somewhat similar way.

As Mr. Prime has described, "in hysteria there are often marked signs of intense emotional expression—predominantly of fear" and, as far as we can judge, this fear is not stimulated by any reasonable external cause; it is probably a production of the imagination.

It is only in very recent years that science has begun to explore the field of animal psychology, and the field of psycho-pathology in the lower animals is all but undiscovered. Perhaps it is impossible to understand the animal mind in disease until we know something more of it in health, but arguing from analogy it seems at least possible that we have in dog hysteria something belonging rather to the psychical than to the physical.—Yours faithfully, E. Gertrude Knight.

27B High Street, Dorking.
Sept. 21st, 1929.

The "Record" Banquet Attendance.

To the Editor of the Veterinary Record.

Sir,—I notice that on page 833 of the Congress Number of the *Veterinary Record* it is stated that the attendance at the Banquet at Ayr was 220, and, later on, that this attendance was "the largest in the history of the Association."

I think it only fair to say that the number present at the Banquet at the Torquay Congress in 1927 was 226.

Yours faithfully, R. Barons Nelder.

24 Dix's Field, Exeter.
1st October, 1929.

The Editor acknowledges the receipt of the following:—

Communications from Professor S. H. Gaiger (Liverpool), Major J. G. Gallie (Bath), Professor J. McCunn (London), and Professor J. G. Wright (London).

Reports of (1) a meeting of the Dumfries and Galloway Division, N.V.M.A., from Mr. T. A. Davidson, Hon. Secretary; (2) a meeting of the North of Scotland Division, N.V.M.A., from Mr. J. McAllan, Hon. Secretary.